Trains

APRIL

25¢

See page 11.

W. R. McGee, 418 N. B St., Livingston, Mont.

Northern Pacific local train in central Washington.

No. 4, the Northern Pacific's day local between Seattle and Spokane, offers a fine all-day view of the verdant Cascades and the drier valleys and plains of central Washington. Here it is, behind engine 2251, threading its way down the Yakima River north of Yakima, heart of the apple country. Both No. 4 and No. 5, its westbound mate, carry reserved seat coaches in which, for a coach fare plus a 50-cent seat charge, one may have an individual lounge chair, the equivalent of a parlor car in any man's language. At Pasco on the Columbia River these trains connect with Spokane, Portland & Seattle trains from and to Portland, offering similar daylight service through the scenic Columbia River gorge.

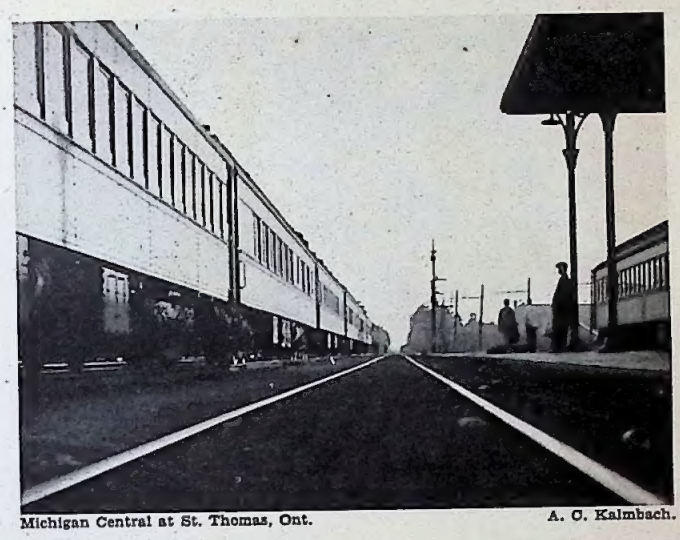
Waybills

Some readers may think it out of place, but we devote our lead article this month to the railways of our enemy, Japan, and the Japanese puppet state, Manchoukuo. I believe the biggest mistake of this war is that we know too little about our enemies. We need a more widespread knowledge of the strength as well as the weakness of the Japanese, and if there is any time when the railroads of a foreign country should be of vital interest to Americans, it is when Americans are fighting against that country. I confidently believe that *Asia Express* in this issue ranks with *Main Line to Victory,* last month's issue, as one of our most important articles.

The young lady noticed that the conductor was kept busy punching cash fare slips for the young man across the aisle. Finally the conductor approached her rather timidly and asked, "Would you mind my telling that young man how far you are going so I can stop selling him tickets from one station to the next?"

Timetables are fun. For years I've never passed up a timetable rack without looking it over to see if I can pick up any new ones. I can sit for hours poring over a table, taking trip after trip in my imagination. Puzzle: how to go from *A* to Z in the least possible days and still see all the good scenery by daylight. What an evening one can have with a geographically correct map, a copy of the *Official Guide,* and an easy chair!

A. C. K.



Michigan Central at St. Thomas, Ont. A. C. Kalmbach.

Trains

Editors: A. C. Kalmbach, Linn H. Westcott, Willard V. Anderson

Vol. 2 April, 1942 No. 6

Features

ASIA EXPRESS ---------- 4
By Neill James.

CROW'S NEST PASS ---------- 14
By William Forsythe.

DEATH COMES FOR THE INDIANA ---------- 18
By Frank P. Donovan Jr.

ELECTRIC RAILROADS OF INDIANA ---------- 20
An empire of the past.

A LIVE SPOT ON ANY RAILROAD ---------- 28
Interlocking tower is heart of traffic.

TOBACCO-BELT ROAD ---------- 30
Facts about the Norfolk Southern.

OVER THE BERKSHIRES ---------- 32
By H. W. Pontin.

TRAINS' TRIP TO THE BERKSHIRES ---------- 38

also Letters, News and Miscellany.

Published monthly by Kalmbach Publishing Co., 1568 W. Pierce St., Milwaukee, Wis., U. S. A. The title TRAINS is registered as a trade mark in the United States Patent Office.

Entered as second-class matter Oct. 11, 1940, at the post office at Milwaukee, Wis., under the Act of Mar. 3, 1879.

Subscription Rates: Per year in U. S., Central and South America, $2.50 Single copies 25 cents. In other countries, $3.00 per year; single copies 30 cents.

The first issue of TRAINS was for November, 1940. Most back copies available at 25 cents each.

Asia Express

★ Even before the war the railroads of Japan and Manchoukuo were strained to limit.

By Niell James.

Illustrations from the collection of the author.

A young Russian stands beside the *Asia Limited.*

EVEN before Japan declared war on the United Nations, dragging in her wake Chosen, Manchoukuo and the Kwantung Leased Territory, the railway systems of the troubled Orient were already bogged down, taxed beyond their capacity with passengers and freight. I was one of the last foreigners permitted to travel throughout Eastern Asia before the Pearl Harbor incident. Despite the national emergency I found trains literally bulging with people and cargo. The government-owned railways in Japan proper were actually embarassed with a surplus of freight and passengers, and with a fabulous income. Day coaches designed to carry 80 passengers actually transported 125. Yet there was never room on the trains for all the people who wished to travel.

I was not a stranger to the Orient, having spent three years in Tokyo attached to the staff of the American Embassy. On this, my third jaunt throughout Eastern Asia, I was astonished at the recent step-up in travel. Munitions workers were well paid, and Japan was enjoying a mild boom. Many heretofore unable to afford the luxury began to travel.

The Japanese, ever quick to adopt a successful foreign idea, frequently find themselves entangled with unexpected complications. An amusing situation resulted when the Director of the

Streamlined 4-6-2 Type Locomotive

Baggage and Mail Car

3rd Class Passenger Car

Railways, with full faith in the American slogan "It Pays to Advertise," embarked upon an advertising campaign several years ago to use up some of his surplus funds. A steady stream of attractive literature urged upon the nation's contented kimono-clad families the pleasures and educational advantages of travel. Just at the most inopportune time, when transportation facilities were already overtaxed due to the China incident, the idea of travel clicked. Business men, workers, housewives, entire families began to travel for pleasure and discovered that it really was enjoyable. Every airplane, bus, tram, subway and railroad became jammed with eager humanity going from where they were to somewhere else. It was like a migration. The astonished authorities ceased advertising the merits of travel. In desperation they turned to publicity to undo the unexpectedly successful but unhappy results of their advertising. They launched a "Stay at Home" campaign. Large colorful posters at the entrance to Tokyo's Grand Central urged the populace not to travel just for pleasure. Travelers read the posters without prejudice and continued on to the ticket window. Finally the railway ruled that only as many passengers would be allowed to pass through the turnstile to the tracks as there were seats and standing room on the train, a profound decision. I watched long trains pull out of Tokyo leaving a waiting room half filled with leftover passengers who philosophically formed a new line to wait for the next train.

NIPPONESE railways, which are mostly narrow gauge, date from the year 1869 and were built by British engineers with a loan floated in London. The original gauge of 1.067 meters (just under 42 inches) became the standard for Japan. Besides the 17,030 miles of government-owned track, there are in Japan proper 370 privately owned railway companies operating nearly 6000 miles of lines.

The transportation companies faced the usual problems plus some which were refreshingly original. One, for instance, concerned shoes. Before the advent of railroads kimono-clad pedestrians had always parked their clogs before entering a door. As passengers they left them on the platform when entering the train without a thought but that their clogs would in some mysterious way be waiting for them to step into when ready to debark at their destinations. For years a man with a megaphone stood on the platform of each station to remind the passengers to "Wear your shoes into the coaches! Do not leave your *geta* (clogs) on the platform!"

Another troublesome problem was that of suicides. Poetical Japanese viewing a graceful waterfall, peering into the smoking crater of a volcano, or just watching a beautiful gorge with a rail line running along the bottom have made suicide an outdoor sport. In South Japan, in a particularly beautiful gorge, suicides disrupted traffic so frequently that a sign was finally erected at the spot urging those about to take their lives to please reconsider or at least go elsewhere.

The accident rate is much higher than in the United States. In 1937 the government railways of Japan proper carried roughly *one billion, 170 million passengers.* Casualties that year numbered 3420. Of this number, 1836, or more than half, were suicides.

The majority of the Japanese railroads are electrified and service is regular and prompt until disrupted by blackout practices. At the sound of the siren, lights (except a few draped in black) go off, blackout curtains are drawn over the windows of coaches, and the engine slows down to half speed.

The emergency rationing of food crimps the dining-car chef's style. By law the maximum a citizen may pay for his dinner is 5 yen; for luncheon, 2½ yen; for breakfast, 1 yen. (At current rate 1 yen equals 23 cents). On a first

Below, the consist of the *Asia Limited.*

3rd Class Passenger Car | Dining Car | 2nd Class Passenger Car | 1st Class Passenger and Observation Car

class express I ate a full course *table d'hote* luncheon for the equivalent of 30 cents. I ate on other diners which offered a choice of Japanese or foreign food. A Japanese luncheon, consisting of soup, fish, pickled vegetables, rice and tea, costs less than 20 cents. Dining cars use all-waitress service.

Sex is disregarded in the assignment of passengers to sleeping car compartments. For this reason, many foreigners travel second, rather than first, class, because this class of sleeping car ranks with and is the same type as the American Pullman. The company provides sleeping kimono and slippers for passengers. There was consternation among travelers when nightgown service was discontinued because of a Tokyo water shortage. The special laundry on the premises of the Tokyo station found itself unable to handle the monthly 27,000 pieces of laundry.

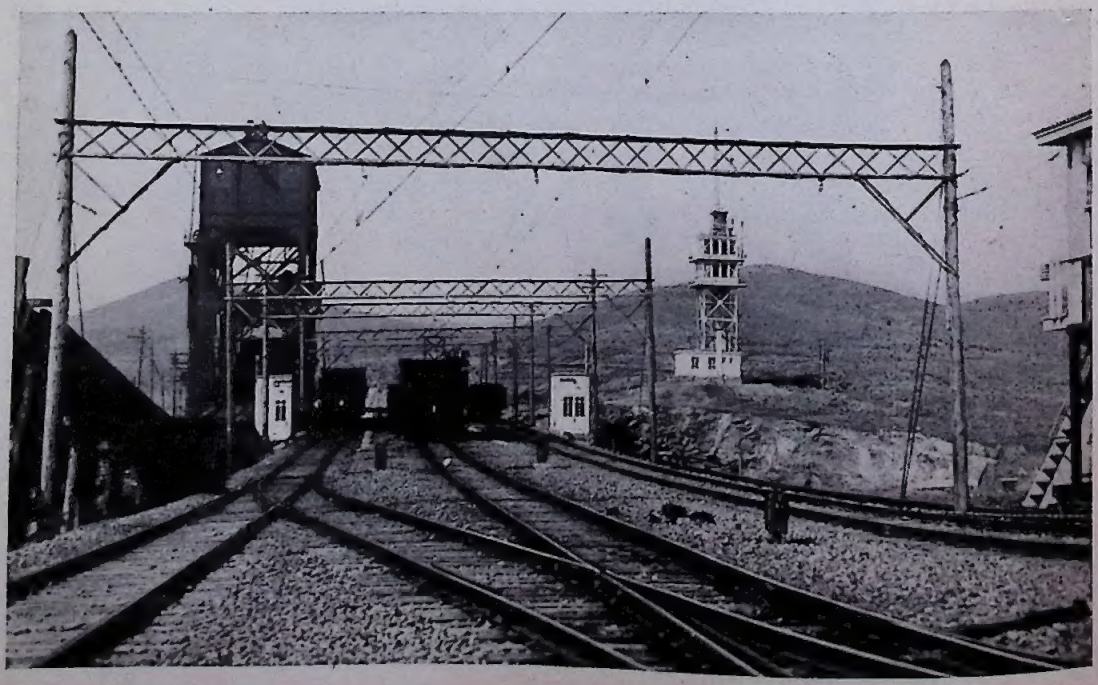
Ticket charges are based upon third class rate, approximately one-half cent a mile. Second is twice and first thrice the amount charged for third class. Sleeping car charges for a lower berth are: first class, $1.61; second, $1.04; third, 35 cents. The third class passenger has to furnish his own bedding and bring his own nightgown.

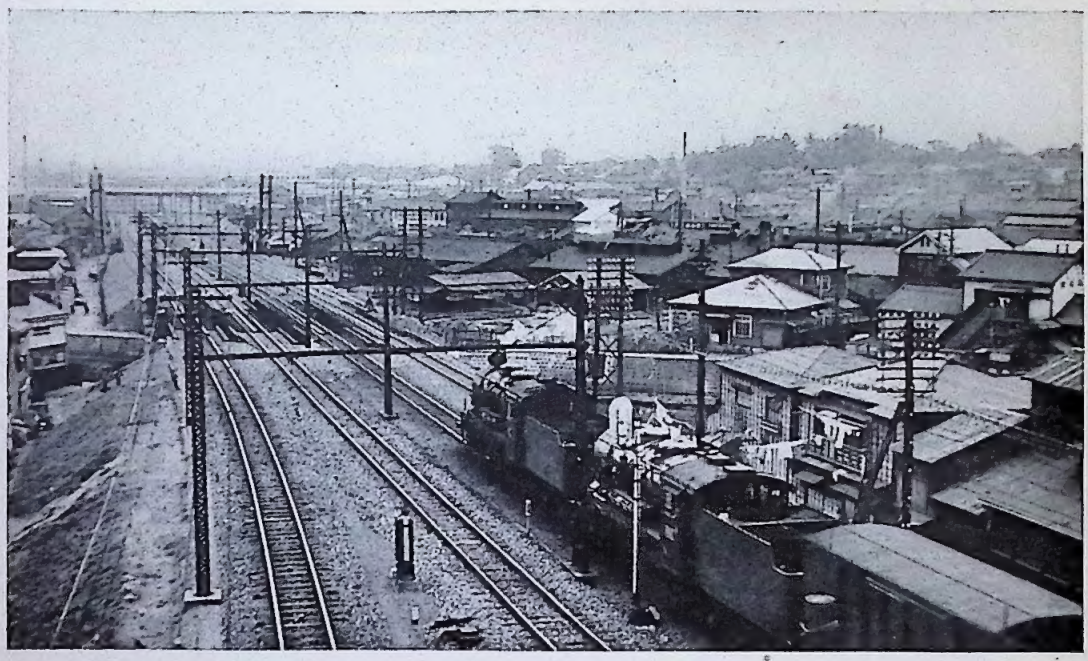
Red Caps, called *Akabo*, wait at each station to take care of luggage.

I FOUND Japan spy-conscious. One town in the North Island of Hokkaido staged a week's "Spy Festival" which ended with a genuine spy hunt and trial. New and unpleasant innovations on the trains are "traveling police" in plain clothes, who spy upon passengers. Without ado they have the right to inspect baggage and confiscate anything they may suspect the customs of having overlooked. I was accosted, asked to give up my passport, and had to submit to questioning for 20 minutes. "How much money have you? How old are you? How long have you been in Japan? From where do you come? What is your business? Where are you going? Whom

Harbor tracks at Dairen.
Electrified lines of the South Manchurian Railway at the harbor of Dairen are shown below, with an electric locomotive approaching on the center track. The switch layout is electrically interlocked, with American style dwarf color light signals; a corner of the interlocking tower can be seen to the right.

Narrow gauge in Japan proper.
At the top of the next page is a view of a narrow gauge electrified line on the outskirts of Tokyo with a double-headed steam train moving into the picture. The gauge standard for Nippon is slightly under 42 inches.





do you know in Japan?" were some of the many questions. All traveling police speak English and are courteous but firm in the execution of their assignment.

Everywhere in my travels in Nippon I encountered soldiers being seen off by kimono-clad, white-aproned delegations of women who shouted "*Banzai! banzai! banzai!*" ("May you live 10,000 years.") The ashes of soldiers killed in battle in China were sent home to their families in white boxes. A saddened father brought one into the day coach and occupied the seat behind mine. The railway provided a table for the box, which was placed near the window. At each town or village where the train halted in the deceased's native province, it was met by a patriotic delegation of women and school children. A priest lighted incense beneath the window and chanted Buddhist prayers while the women stood with bowed heads beneath draped flags. Everywhere I saw the drama of soldiers leaving for the front, and everywhere were white boxes returning.

Railway employees, even laborers, rank ahead of business men and professors in the income brackets. It is the custom to select apprentices from the graduating class of local high schools. And lucky is the youth who secures a berth with the Government Railways. If his work proves satisfactory, he is in a life position with automatic raises, employee benefits, insurance, vacations with pay, and old-age pension. If he proves adept at foreign languages, promotions are rapid. The actual average salary is around 70 or 80 yen ($17 to $20) per month. In addition he receives an annual bonus, plus allowances for housing according to his location. Those willing to migrate to Manchoukuo are encouraged by a 60 to 70 per cent increase in salary. The Japanese Government Railways employ 180,000, including 8000 women.

In order to tie the common people more closely to the throne via the golden chains of faith, the emporer is promoted as the Living God. In government offices are small plaques on the wall containing the emblem of the Rising Sun and the inscription, "In this direction lies the imperial palace." When railway employees arrive for the day's work, they rise and bow in the direction of the imperial palace and say a prayer. It is an impressive ceremony.

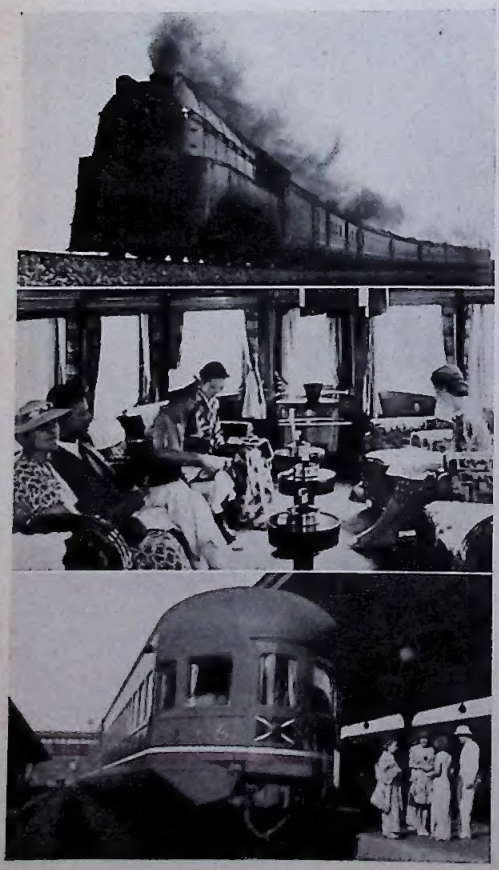
On the mainland in Chosen, I transferred from the Shimonoseiki Ferry to the waiting express. While the train stood in Fusan Station at 7 a. m., a siren sounded, the signal for every employee and passenger to stand, face in the direction of Tokyo, and bow in silent

prayer for one minute. On a visit to the Fushun coal mine in Manchoukuo, largest open-cut coal mine in the world, owned in part by the South Manchuria Railway, I noticed the employees bowed, but not in the direction of their own capital in Hsinking where Emperor Kang Teh lives. They too bowed in the direction of Tokyo.

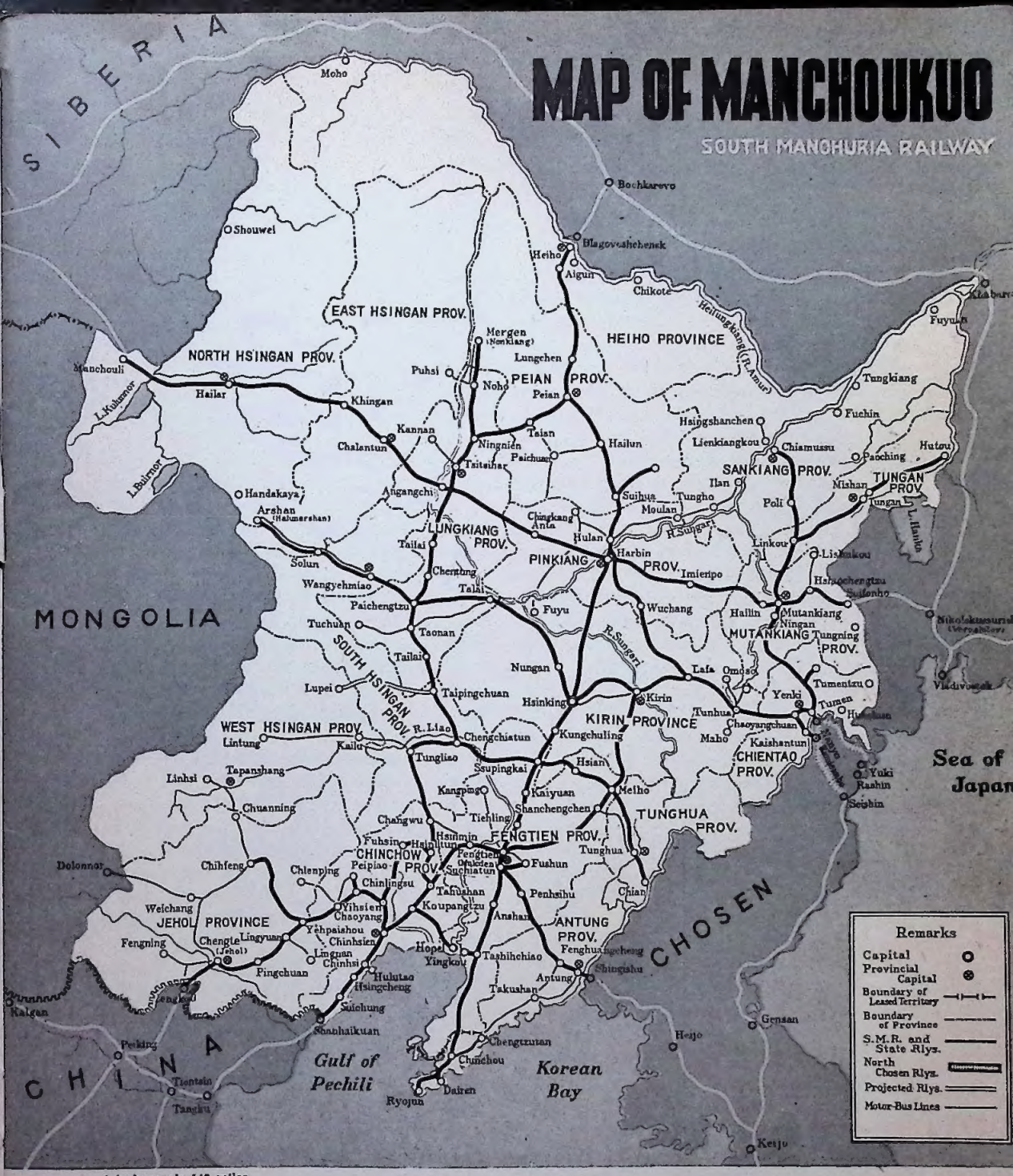
I was astonished at the improvement the Japanese made in train service in Manchoukuo. It was a far cry from conditions in 1927, when I traveled north from Peking, across the Manchurian plains in an armed train, locked in my compartment with a guard posted at my door, armed with a gun and fixed bayonet. Delayed by sidetracking to allow troop trains to pass, I saw from my window, by the light of a harvest moon, the open coal cars filled with shivering gray-clad Chinese soldiers, each with a rifle in his hand and a gray umbrella strapped to his back. They were going to the northern front.

When I passed this way again in 1934, on my way to Moscow via the Trans-Siberian, the Manchurian incident had been settled. Pu Yi, boy emporer of China, clad in fox skins with an orchid for a crest, had been proclaimed Emporer Kang Teh of Manchoukuo—a puppet ruler whose strings were manipulated in Tokyo. And so crowded was the train going north from Dairen, it was like a first class Oriental gold rush. There was a mad scramble to get to Hsinking, new capital being erected on the plains outside the walled Chinese city of Changchun. Hell-bent for Manchuria were coolies, soldiers, adventurers, Mongols, Chinese, Japanese, Russians, and one lone American woman. In the *Pigeon Express* overhanging racks creaked under mounds of luggage. Narrow corridors were blocked with yet more luggage, and the joint washroom, shared by men and women alike, was jammed with giant leather suitcases bound for the Promised Land. I was forced to share a four-berth compartment with three Asiatics—two Russians and a Japanese—all men. A carload of armed railway guards protected us from bandits when we crossed North Manchuria.

In 1940 I traveled over this same line once more, this time aboard the *Asia Express*, a streamlined air-conditioned train powered by a big blue engine at a nominal speed of 63 miles per hour. My companions, in the spacious observation car with revolving upholstered seats, were prosperous Japanese business men in foreign clothing, accompanied by wives in dainty kimonos, and a contingent of Germans of military age, clad in well-tailored British tweeds and wearing gold watch chains. They were going to Japan to help the Mikado's pro-Axis henchmen perpetrate the coming attacks on America and the islands in the South. The menace of bandits along the main line was no more. Only a token guard, a lone soldier clutching his rifle, stood at attention as the *Express* rolled into the main stations. But the pill-boxes with



Streamlined *Asia Express*.
Across the plains of Japan's puppet-state Manchoukuo streaks the modern *Asia Express*, a train built by the Japanese in their Shakako shops to American standards. The similarity to our newer trains in outward appearance, interior lounge car furnishings, and even couplers, air hoses, and streamlined solarium car rear end can be noted. The locomotive is painted indigo blue, the cars light olive.



1 inch equals 140 miles.

The railroads of Manchoukuo.

Japan's puppet-state Manchoukuo, once called Manchuria, on the Asiatic mainland, is a land as large as eastern United States from Cincinnati to the Atlantic and from Canada to Florida, and very similar to our own country in resources. Chosen, once known as Korea, is more closely allied with Japan (off the map, lower right) than even Manchoukuo. The main railways of Manchoukuo form a sort of cross with the center at Harbin. The east and west arm of this cross was the original Trans-Siberian Railway built by the Russians. Wartime Trans-Siberian traffic must now go the long way around to the north of Manchoukuo. The original line was changed from Russian to standard gauge by the Japanese. Port Arthur is now called Ryojun.

loopholes remained. In the South, over near Mongolia, a full contingent of railway guards with rifles topped with fixed bayonets snapped to attention as our train halted at small stations.

THE romance of the building of the railroads in Manchoukuo is a fascinating tale. After taking over from Russia the rail line extending from Port Arthur to Changchun (Hsinking) as part of the spoils of the Russo-Japanese War, Japan set about at once to improve the line. The broad 5′-4″ Russian gauge was changed to standard and the 64½-pound Russian rails were replaced with 80-pound rails. These were later changed for 100-pound rails when the main line between Dairen and Hsinking (formerly Changchun) and the branch extending to the Fushun coal fields were double-tracked. The light military line between Mukden and Antung on the Korean frontier, built by the Japanese army during the war with Russia, was completely rebuilt. Tracks were relocated in many places to save as much as 20 miles. Grades were reduced, tunnels bored and new bridges built.

I was struck by the similarity of railroads on continental Asia to those in America. The resemblance is authentic. When Japan found herself in the market for vast supplies of railway equipment and rolling stock for the project in newly acquired Manchoukuo, she asked for bids from foreign countries. British salesmen talked price and durability, while their American industrial rivals emphasized beauty, comfort in travel, service, and quick delivery of materials. The similarity of the physical conditions of Manchoukuo and the United States also served to aid the Americans in getting the contract. Because of the wide expanses of territory, the heavy nature of the freight to be transported, the preponderance of agricultural products common to both countries, the American system of railroads was the logical choice for Manchoukuo. Thus it came about that most if not all of the stock, rails, couplers, air brakes, and parts, as well as machine tools, were imported from the United States of America. Although the work of organization and administration was done by the Japanese, many of the technical vice-presidents of the leading American railroad equipment manufacturers served as technical and administrative advisers.

American engineers advised and cooperated in the construction of the Shakako Railway Workshops situated at Shakako, near Dairen. This plant, covering an area of over one million square meters and embracing 97 buildings, is equipped with American machinery and modern facilities. The plant contains the following shops: machine, smith, boiler, girdler, freight and passenger car, pattern, erection, paint, finishing, and electric repair, as well as iron and steel foundries, saw mills, power house, main office and general store, and an independent water supply system. The Shakako Railway Workshops began operation in 1911 and today rank as one of the largest and best-equipped plants of the kind in the Orient. In 1938 and 1939 the workshops employed 5870 workers, who built and repaired cars and filled outside orders to the amount of 23,577,000 yen.

The shops are proud of the fact that they planned and built in its entirety the new streamlined super-express *Asia* operated by the South Manchuria Railway Company. Recently the American-built Shakako Workshops came to the aid of Japan's war plans. The sword is an important part of the Japanese soldier's equipment. The workshops installed a sword-making department under the direction of a famed swordmaker.

The South Manchuria Railway Company also maintains workshops at Suchiatun, where the preservative process is applied to ties, mine posts, telegraph poles, etc. It oper-

Chaichaikou, Manchoukuo.

A railway guard protects the train from a surprise attack by bandits while passengers disembark. The station name is given in Chinese and Russian.

On the covers.

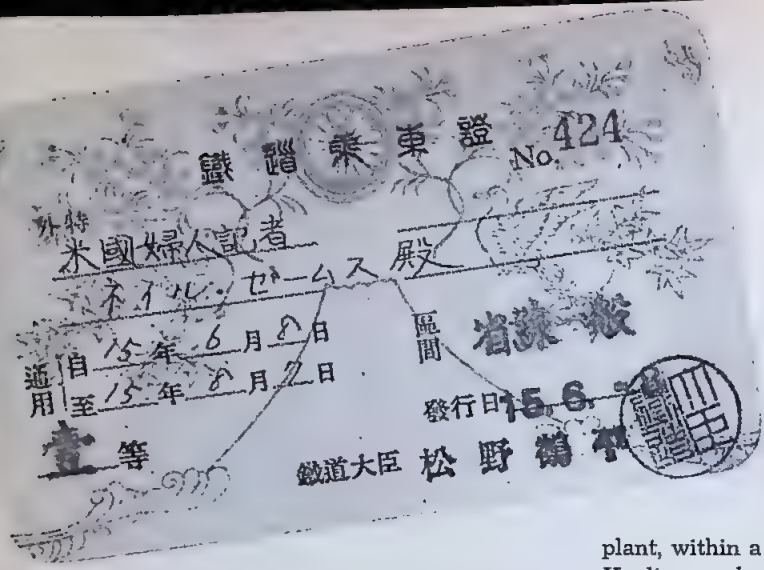
Canadian National's *Continental Limited* glides through the heart of the Rockies on our front cover, while on the back, a Delaware & Hudson towerman at Sidney, N. Y., hangs the order hoop out the window to a freight. After taking this picture, Frank Quin secured a ride on the motor car, left, to get more scenes on the main.

ates an electric shop at Dairen where telephone and telegraph machines are repaired and various experiments are carried on.

The railway systems under the domination of the mikado are a medley of gauges, a handicap which slows down troop movements, freight and passenger service, and increases the cost of transportation. China, Russia and Britain each had a hand in building railroads in what is now Manchoukuo and Chosen, and each used a different gauge. China, under the influence of American engineers, employed standard gauge, while the Russians, who love to do things on a big scale, built broad (5'-4") gauge lines. The conservative British built the narrow gauge lines in Japan proper. Thus the rolling stock in use in Japan cannot be ferried across and put on the standard gauge Chosen railways and shunted on down into the parts of China occupied by Japanese troops. And Chosen standard rolling stock cannot be shifted to North Manchuria in an emergency. But an invading army of Russians (should Russia go to war with Japan) could shunt Trans-Siberian trains to the broad gauge lines in North Manchuria and roll down as far as Harbin.

Japan was quick to see the disadvantages of having her railway gauge match that of the neighboring Soviets, and as soon as she tightened her stranglehold on Manchoukuo she set about making the change-over in feverish haste. She decided to standardize the 600-mile stretch connecting Dairen in the South with Harbin, the junction in the North. She planned to follow with the change-over on the two lines actually connecting Harbin with the Siberian border at Manchouli and Heiho. The changing of the Russian broad gauge to standard on the 149-mile stretch between Hsinking and Harbin without the interruption of passenger service is still regarded as an outstanding feat in modern rail history. It was the result of carefully laid plans. Two thousand picked employees rehearsed their part in the re-laying of the line. Materials were distributed along the track, and spikes placed in readiness. On August 31, 1935, the last trains left Hsinking and Harbin at midnight and met half way between the two cities. Work was begun in the center. Crews worked in sections. The gauge was not only changed but the road overhauled and improved to permit high-speed through service from Dairen to Harbin in anticipation of the future operation of the *Asia Express*. The change-over on the 149 miles of track was completed within the space of six hours. The 8 o'clock Harbin express ran on schedule the same morning. The cost, exclusive of bridge repairs, was $203,000.

The improved roadbed allowed for greater speed, and in 1937 the Orient's first streamlined express service was inaugurated over this line. Thundering over the plains at a mile a minute, the air-conditioned *Asia*, drawn by a Pacific type steam locomotive painted a dramatic indigo blue, hauled six coaches tinted a light olive shade with a white stripe running the length of the train. The stripe indicates a first class train. The road operates three classes; a blue stripe proclaims second class while red indicates a third class carriage. All coaches have a width of 10 feet and are of uniform size. A first class coach accommodates 30 passengers, second, 68, while third carries 88. Second class corresponds to our



Author's pass.
This is a pass over the Japanese Government Railways System, issued to the author of this article. The original is in five colors, and the artistic embellishments with the pastel colors give it an appearance of anything but a railroad pass. The mountain is Fujiyama and the circular design above it is the imperial crest.

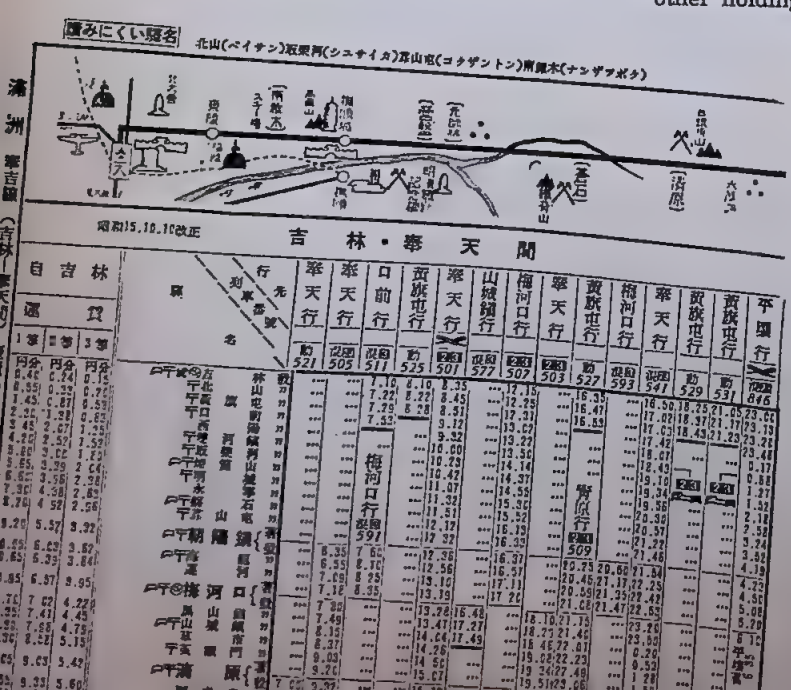
American modernized coaches. Air conditioning equipment of the steam ejector type is installed in all coaches of the *Asia*.

Built in the Shakako Workshops, the engine was ordered to be as light as possible. Special cast steel was used for the cylinders, while the boiler shell is composed of nickel-steel plate. The engine is designed to haul a train of six coaches at a top speed of 140 kilometers (87 miles) per hour, but at present the roadbed does not permit such high speed. Special features were added to the fire box of the *Asia* to make it suitable for the burning of coal from the company's own Fushun mines.

Its window shades painted with aluminum to reflect the heat, the *Asia* is like a silver streak as it speeds across the fertile black cultivated Manchurian plains. It cuts a wide swath across the farm lands because even today Chinese farmers are not permitted to plant *kaoliang*, a tall, tasseled sorghum-like plant, within a half mile of the right of way. *Kaoliang* makes excellent ambush for bandits.

Japanese culture follows her railways. In acquiring Russia's interest in the South Manchuria Railway in 1905 at the termination of the Russo-Japanese War, Japan got her first toe-hold on the continent of Asia. Twenty-seven years later she owned all of Manchuria, with a population one-fourth as great as that of the U. S. A. In addition to transportation, the South Manchuria Railway engages in manufacturing, warehousing, shipping, mining, real estate, and various public works including schools and agriculture. It has built 25 planned cities. Today the company operates hotels, 26 kindergartens, 110 schools, 2 colleges, 1 university, 2 public libraries, 87 hospitals, 1 sanatorium and an agricultural research station.

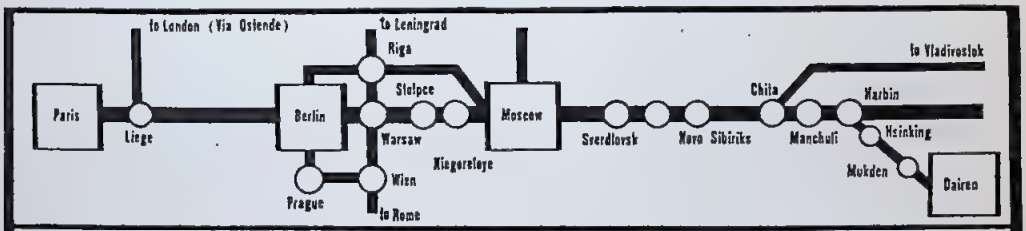
Passenger revenue alone jumped from only 2½ million yen in 1907 to 25 million yen in 1937. The total revenue during this period received from passengers, freight, mining and other holdings leaped from 9,770,000 yen to 255 million yen. The railways of Manchoukuo form the connecting link between Europe and Asia. Strained to the limit of capacity even before the Pearl Harbor attack, they are among the richest revenue-producing lines in the world.



This is a timetable.
Believe it or not, there are 100 million people who can read, understand and use the travel information contained on this page. Fares are quoted at the left, equipment facilities above each schedule.

From Manchoukuo to Europe via Siberia.

People don't go this way any more. One of the last passengers was the Japanese General Comoyuki Yamashita, who returned from Germany just before the attack on Russia after studying the German air force in preparation for the Japanese attack on the southwest Pacific. Have you ever seen so many large cities on one route map? This is a tremendous railway achievement, a schedule one-third of the way around the world! The graphic timetables are entirely different from anything used in public folders in this country, as is also the 24-hour time. The use of English as an international language is especially interesting to Americans.

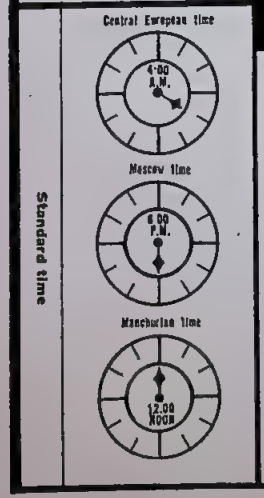


MANCHURIA-EUROPEAN RAILWAY CONNECTION VIA MOSCOW

Distance in Kilometers	Estimate Date 1st Class	2nd Class	3rd Class
	Including berth and sleeper charges		
0	Y	Y	Y
397	22.47	14.12	7.66
702	36.89	23.66	12.89
944	50.49	31.92	17.75
1878	104.24	64.47	36.38
2353	170.00	112.00	66.00
8582	445.00	304.00	212.00
9407	507.00	356.00	231.00
9434	509.00	357.00	230.00
9908	594.00	423.00	255.00
10476	660.00	466.00	258.00
11557	791.00	556.00	317.00

Meal Tickets for one day: A—Y10.80; B—Y 8.10

Manchuria—Stolpce



West bound

	1	2	3	4	5	6	7	8	9	10	11	12	13	Facilities
	Sat. / Tues.	Sun. / Wed.	Mon. / Thurs.	Tues. / Fri.	Wed. / Sat.	Thurs. / Sun.	Fri. / Mon.	Sat. / Tues.	Sun. / Wed.	Mon. / Thurs.	Tues. / Fri.	Wed. / Sat.	Thurs. / Sun.	
Dairen Lv.	8.55													Everyday
Mukden Arr. / Lv.	13.44 / 13.50													
Hsinking Arr. / Lv.	17.20 / 17.30													
Harbin Arr. / Lv.	21.30 / 10.30													
Manchuli Arr. / Lv.		10.55 / 14.00												
Chita Arr. / Lv.			1.04 / 1.34											
Moscow Arr. / Lv.									13.30 / 23.05					Twice a Week
Niegoreloye Arr. / Lv.										12.36 / 13.50				
Stolpce Arr. / Lv.										12.25 / 13.20				Everyday
Warsaw Arr. / Lv.										21.42 / 22.08				
Berlin Arr. / Lv.										7.43 / 8.03				
Paris Arr.										21.37				

Manchuria Time / Moscow Time / Central European Time

East bound

	1	2	3	4	5	6	7	8	9	10	11	12	13	Facilities
	Tues. / Fri.	Wed. / Sat.	Thurs. / Sun.	Fri. / Mon.	Sat. / Tues.	Sun. / Wed.	Mon. / Thurs.	Tues. / Fri.	Wed. / Sat.	Thurs. / Sun.	Fri. / Mon.	Sat. / Tues.	Sun. / Wed.	
Paris Lv.	10.06													Everyday
Berlin Arr. / Lv.	23.44 / 0.10													
Warsaw Arr. / Lv.		9.02 / 9.12												
Stolpce Arr. / Lv.			17.00 / 17.33											
Niegoreloye Arr. / Lv.				20.08 / 21.37										
Moscow Arr. / Lv.					11.20 / 17.00									Twice a Week
Chita Arr. / Lv.									5.35 / 6.05					
Manchuli Arr. / Lv.										4.45 / 12.50				
Harbin Arr. / Lv.											14.10 / 9.30			Everyday
Hsinking Arr. / Lv.												13.30 / 13.40		
Mukden Arr. / Lv.													17.09 / 17.15	
Dairen Arr.													22.05	

Central European Time / Moscow Time / Manchurian Time

Crow's Nest Pass

★ Price fixing got everybody tangled up even though it helped the CPR to bridge the Rockies.

By William Forsythe.

VERY likely, the term Crow's Nest Pass doesn't mean much to you. When you learn Crow's Nest Pass is a break in the eastern range of the Rocky Mountains just north of the Canadian boundary, you might imagine travel and adventure, or ice and snow in rugged, mountainous country. But to a Canadian Pacific traffic official, Crow's Nest Pass means only trouble.

Signed in 1897, the Crow's Nest Pass Agreement was made by the government of Canada and the Canadian Pacific Railway. It called for construction of a 330-mile railroad westward from Lethbridge, Alta., to Nelson, B. C., through Crow's Nest Pass in the southeastern British Columbia mountains, to provide an alternate route to Vancouver and to open up regions rich in minerals. Now commonly termed the railroad's Kettle Valley Line, its map shows how mountains can turn ordinarily direct railroads into wandering trails of indirection.

Territory to be traversed by this line was only sparsely settled, and everyone realized that many years would pass before a remunerative business could be built up through settlement of the country and development of local industries. Although it was making its own way in typical Canadian Pacific fashion, the railroad was unable, without assistance, to undertake this pioneering venture with such a heavy financial burden. So the government granted the railroad a subsidy of $11,000 per mile of line, not to exceed a total of $3,630,000; actual money paid was some $3,400,000. This part of the deal had no unusual features; it was simply a case where government wanted railroad construction strongly enough to help pay the bill. But there was another provision, commonly known as the Crow's Nest Rate Agreement, that brought plenty of trouble to the railroad, to other railroads, and to all the shippers in Canada during later years. Provincial governments, the Board of Railway Commissioners, Parliament and the Supreme Court have all been involved in these troubles.

This provision called for rate reductions, mostly amounting to 10 per cent, westbound on articles used by settlers and eastbound on products of the Western territories. Wheat rates were to be reduced 1½ cents per 100 pounds the first year and another 1½ cents the next year. Once reduced, the rates specified were to be maximum rates. All these provisions applied to traffic passing through Port Arthur and Fort William. These points are at the head of the lakes in Ontario; in 1897 the Canadian Pacific had the only line of railroad joining eastern and western Canada, and that line passed through these cities.

The rates, then, were to encourage commerce between eastern and western Canada. But there were two jokers: 1, the agreement covered only the then-existing mileage of the Canadian Pacific, saying nothing about rates to be charged on lines built later by the CPR; 2, the rate specification apparently didn't say the Crow's Nest rates were to be 3 cents, or 10 per cent, under normal or under existing rates; rather, it specified the rates themselves, saying they were to be 41 cents, or 63 cents.

For some 20 years everything was fine. Canadian Pacific rates were well below the maximum rates called for by the agreement, and so in reality the agreement had no effect. The country was building up, immigration was continuing, other railroads were meeting the Canadian Pacific rates and the CPR was coming through regularly with its annual dividend of 10 per cent. But when World War I so raised prices and operating costs that something had to be done to increase revenue, trouble began.

Back in 1897 the Canadian government was making great efforts to encourage immigration, and so was the Canadian Pacific. European agencies assisted would-be colonists to

secure their passage to America and to decide where they would settle. No direct statements have been found to indicate that low freight rates *in perpetuity* were promised these people, but we can assume that such representations were indeed made. We can assume this from the bitterness and consistency with which the people have resisted railroad attempts to increase freight rates.

In June, 1918, the railroad raised rates

Historical post cards.

For the railfan who collects or sends post cards we have some interesting reproductions of original etchings on early Baltimore & Ohio historical subjects. Accurate descriptions of the scenes are included on each card, and an envelope containing six different cards can be obtained by sending 25 cents to TRAINS, Milwaukee, Wis. Ask for "B&O post cards."

Early train near pass.

Taken soon after the completion of the Crow's Nest Pass line of the Canadian Pacific, this early photo shows a train working its way down the grade westbound from the summit and indicates the winding needed to reach the top. Notice the stub switch in the lower right corner of the photo. The view is northwest.

Canadian Pacific

EDMONTON
VANCOUVER
VANCOUVER ISLAND
VICTORIA
SEATTLE
TACOMA
PORTLAND
SPOKANE
CALGARY
BANFF NATIONAL PARK
GLACIER NATIONAL PARK
GREAT FALLS
Revelstoke
Nelson
Kamloops
Kelowna
Penticton
Trail
Cranbrook
Lethbridge
Medicine Hat
Regina
Moose Jaw
Saskatoon
Prince Rupert
Jasper
Yellowhead
Chilko Lake
Quesnel Lake
Arrow Lake
Kootenay Lake
Okanogan Lake
Columbia
Wenatchee
Yakima
Pasco
Walla Walla
Lewiston
Pullman
Moscow
Spokane
Missoula
Helena
Havre
Shelby
Cut Bank
Conrad
Fort Benton
Box Elder
Virden
Thompson
Lillooet
Ashcroft
Kamloops
Salmon Arm
Revelstoke
Golden
Field
Lake Louise
Calgary
Edmonton
Jasper
Banff
Cranbrook
Fernie
Lethbridge
Medicine Hat
Swift Current
Moose Jaw
Regina
Saskatoon
Prince Rupert
Terrace
Kitimat
Port Alberni
Nanaimo
Courtenay
Campbell River
Port Alberni
Port Angeles
Olympia
Aberdeen
Longview
Vancouver
Portland
Oregon City
Woodburn
Salem
Eugene
Roseburg
Medford
Klamath Falls
Bend
Pendleton
Hermiston
Boise
Nampa
Twin Falls
Pocatello
Idaho Falls
Butte
Great Falls
Havre
Shelby
Cut Bank
Conrad
Fort Benton
Box Elder
Virden
Thompson
Lillooet
Ashcroft
Kamloops
Salmon Arm
Revelstoke
Golden
Field
Lake Louise
Calgary
Edmonton
Jasper
Banff
Cranbrook
Fernie
Lethbridge
Medicine Hat
Swift Current
Moose Jaw
Regina
Saskatoon
Prince Rupert
Terrace
Kitimat
Port Alberni
Nanaimo
Courtenay
Campbell River

end of this time, Canadian Pacific determined to grant Crow's Nest rates only on those portions of the line that had been in existence in 1897, all that the law required, in order to save itself from forced suicide. The resulting discriminations were so severe and numerous that almost everybody felt himself aggrieved, and the Board of Railway Commissioners was swamped with complaints. There had to be a showdown.

The board weighed all factors and decided the greatly changed conditions made Crow's Nest rates unreasonably low. It was charged with the duty of keeping rates reasonable. Crow's Nest rates were thrown out.

But the Supreme Court reversed the board. Parliament got busy again and legislated—permanently, many people hope—that thereafter there were to be no Crow's Nest rates on anything but eastbound wheat and flour.

Several years previously, in a big rate case, the Board of Railway Commissioners had decided that to maintain the reduced rates on eastbound traffic and deny them to westbound traffic was an undue discrimination, and CPR had to eliminate the discrimination by reducing rates to Vancouver too. This parity has since been maintained.

For the most part, the Crow's Nest Pass Agreement has been a ratchet-wheel arrangement that worked only one way. It has been stated that in accepting the subsidy and giving up its right to make rates on a reasonably compensatory level, the railroad was in effect selling its soul for a mess of pottage. Compared to revenues lost by the railroads, the original $3,400,000 subsidy from the government is just a very small drop in the proverbial bucket.

And so hindsight tells us that statutory rate making, with all its brittleness, is a practice that can bring plenty of trouble. It suggests that the right man to price any article or service is the seller, negotiating with the buyer, rather than law makers who can't foresee the future any better than other people—at least in time of peace, when there is no national emergency.

At the crest of the Continental Divide.

The eastern climb to the crest is quite spectacular. The line lopes along in an easy valley between those unbelievable travel-folder mountains. This is called Sentinel Valley, and the river winds through muskegs and has been straightened out, as in the foreground, to eliminate some otherwise necessary bridges.

Canadian Pacific.

Death Comes for the Indiana

★ Like many an interurban, Indiana RR. could not realize the economies of trainload operation, and so it died.

By Frank P. Donovan Jr.

A TYPICAL American interurban line! Yes, the Indiana Railroad System may readily be called a typical American interurban railroad. From start to finish, from main line to siding, it had virtually all the attributes of a representative trolley line. When Charles L. Henry built the Alexander-Anderson Division of the old Union Traction Company in 1897 in the rosy dawn of the big interurban boom, it was primarily for passengers. When the great Indiana System quit at the beginning of 1941 it was essentially a passenger-carrying unit. Typical? Indeed it was, of the average high-speed interurban. And therein lay its vulnerability: a transportation plant magnificently equipped for hauling passengers and inherently unsuited for handling freight, particularly of a heavy interchange nature.

The constituent companies forming the Indiana System differed very little from most high class interurban properties in the Middle West or the East. Single-tracked, with rails usually of 70 pounds and direct suspension of trolley wire, they generally paralleled a steam road or nestled close to a highway. Because of the unusually level topography there was little need for extensive cuts or fills, gradients or curves. Yet there were some very sharp curves when the interurban ran in the center of the highway through town and abruptly turned a corner from Main Street to an intersecting road. It was these urban shortcomings which were fatal on the Indiana, and about 90 per cent of the other high-speed lines throughout the nation, limiting them to passenger and light freight service only.

The Union Traction Terminal in Indianapolis was on the hub of the Indiana Railroad. In the heyday of the interurban this was a busy station, with hundreds of departures daily. It was built in 1904 to serve all 12 of the traction routes radiating from the Hoosier capital, and beneath its huge steel arch trainshed were nine tracks. Here was the spirit of the interurban as a railroad, and here was the spot to best see the activity of the Indiana at its height.

Let's drop back a dozen years or so and stand in the waiting room. From here we can go through by electric railway to some 800 cities and towns on 5000 miles of track in six states. We can take a Terre Haute, Indianapolis & Eastern, via Dayton & Western connection, to Dayton, O. We can connect for Cincinnati, or for Cleveland, Detroit, South Bend, Chicago, Milwaukee, or we can take the *Interstate Dixie Flyers* for Louisville. The big steel cars marked Fort Wayne are a "four-hour county seat train" making county seat stops only.

The crowd of shoppers with bags and parcels, of traveling men with grips and sample cases, of students homeward bound, moves steadily in from the street and, after a brief pause, out into the spacious train floor. Trucks rumble in with pouch mail and with parcels for the fast express dispatch operated on passenger trains. The motormen busily adjust route signs, test air, and check watches. The Fort Wayne train is loading, ready to move at 5. In the commuting tradition 5:15 is the busy time, but the usual interurban lines were not suburban roads and the favorite departure time was on the hour, with 5 o'clock a heavy favorite. So let's stick around and watch. The 5 o'clockers include two for Fort Wayne, one via Anderson, the *Flyer*, and one via Kokomo and Peru. Another train is for Louisville, another for Muncie via Newcastle, others for Greensburg and Crawfordsville. The THI&E has 5:15's for Terre Haute (local) and Dayton (limited).

Out they go, the typical interurbans, and over trackage that represents every type of interurban line construction. Some of the lines parallel steam railroads with light, top-of-the-grade roads. Others are built along

James P. Shuman, courtesy William Moedinger Jr.

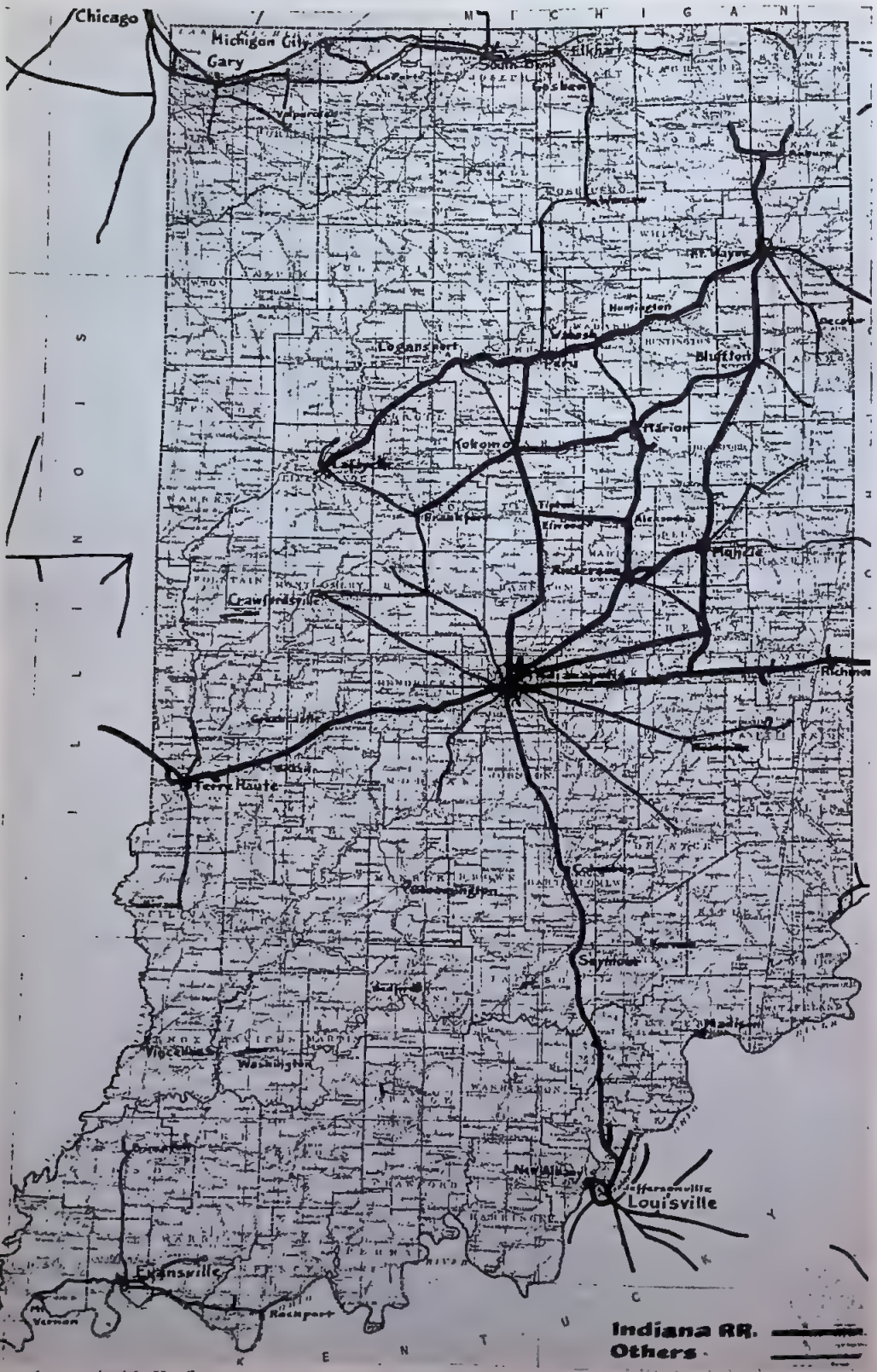
One of the Indiana's lightweight, high-speed cars.

The car is No. 58 and the time is 1938, when the Indiana still operated two lines between Indianapolis and Fort Wayne. This is at Bunker Hill station on the Peru line. The railroad in the background is the Chicago-Columbus line of the Pennsy. Now Indiana Railroad is something to be found in railfan albums.

highways, while part are built to railroad standards, complete with brick stations, baggage trucks and all. The trolley is all direct suspension, except for the Dayton & Western, which has simple catenary. Trolley voltage is 600, fed from manual and automatic, rotary convertor and rectifier substations. A *Hoosier Flyer* grinds around the curves into the shed at 5:30 . . . but we "come to" with the realization that all this is no more. We look out of the waiting-room windows and see the track space paved over, and Greyhound buses loading where only a few years ago there were at least some of the orange cars, the Indiana high-speeds and the heavy R. P. O's that took over the mail run to Fort Wayne in 1935 after the Nickle Plate gave it up.

The Indiana Railroad was formed July 2, 1930, to garner the Hoosier interurbans into one unified system and to separate the railways from power operation. On that date Receiver A. W. Brady sold the Union Traction Company of Indiana to the Indiana Railroad, an Insull property controlled by the Midland United Company. A few months later, three Midland units—the Indiana Service Corporation, the Indiana Power Company and the Interstate Public Service Company (reorganized as the Public Service Company of Indiana)—came under the wing of the Indiana Railroad. Finally, when the 175-mile Terre Haute, Indianapolis & Eastern Traction Company was acquired by direct purchase from Elmer Stout, its receiver, on June 23, 1931, the interurban empire was virtually complete. Here was a system born in the throes of a world-wide depression yet logically coordinated to withstand the severe automobile competition in the crucial days ahead. And for 10 long years, come a recession, a strike and the New Deal, it doggedly continued to operate. But the cards were stacked against it. The Indiana was born at the wrong time.

Up to the formation of the Indiana, high-speed lines were of inestimable importance in



1" equals approximately 35 miles.

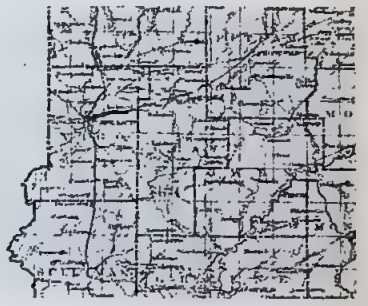
Linn H. Westcott.

Yesterday's empire.

It was only a handful of years ago that one could travel all the electric railways on the map (opposite page), bounding along the Indiana countryside or beside the Hoosier highways at a mile a minute in the cars of about a dozen different companies, many of which were finally included in the Indiana Railroad. On the west the line angling out of Terre Haute almost connected with the eastern extremity of the Illinois Terminal, which would have formed a through route to St. Louis. To the north were two principal connections to Chicago with the Winona Railroad as the essential link between Peru and Goshen. To the east Indiana Railroad itself stretched out of the state, by purchasing the Dayton & Western, to connect with the Ohio lines at Dayton. Ohio connections were also made at Fort Wayne, via Lima. The important legs of the Indiana Railroad, as finally evolved, were the long through route to Louisville, the two routes to Fort Wayne via Peru and Muncie, the line to Dayton, and the line to Terre Haute. Up in the northwestern corner of the map, from Chicago to South Bend via Michigan City, is the South Shore Line, still doing very well because it has the two essentials of a successful electric railroad, either of which would have kept the Indiana alive: good commutation business and trainload freight traffic. In the same area are the 25 miles of cut and fill that memorialize that most fantastic of all interurban projects, the one-time Chicago-New York Air Line, shown west of La Porte. Its slogan was "Chicago to New York in 10 hours," and the prospectus told of plans for an electric railroad without curves or grades from Chicago to New York.

Today's vestige.

All that remains today of the once-great Indiana Railroad is a 7.4-mile segment at Terre Haute, connecting the Bobolink Mine with steam railroads (map below). A typical train is shown behind locomotive 753. The track between Indianapolis and Seymour may be rehabilitated due to the war.



W. A. Steventon, 1005 Pear St., Mt. Carmel, Ill.

binding countryside and town. Farmers set their watches by the cars, housewives brought in the morning's milk delivered to the local dealer by the interurban, the family read the evening paper whisked from Indianapolis by electric express, new communities prospered, and practically everyone rode the interurban. It was the thing to do!

By 1930, however, the fact became increasingly evident that the interurban, hitherto a necessary Hoosier institution, was being relegated to the field of an auxiliary transportation unit. Automobiles were skimming along the highways, carrying people who had only recently been paying-passengers of the interurbans. And so, when the Indiana Railroad assumed control, the watchword was modernization—or else.

Like most of the average high-speed lines all over the country, the Indiana was ill-equipped to face the future without costly rehabilitation and drastic dismembering of weak parts. Again, like the typical interurban, there were certain atypical features peculiar to the system which were first to be dropped. The luxurious parlor-dining services between Indianapolis and Fort Wayne via both Muncie and Peru, and on the Indianapolis-Louisville run, were summarily discontinued. By 1932 porters no longer made beds in the comfortable 10-section steel sleeping cars operated nightly between the Hoosier capital and Louisville. Folks seldom went from points in Indiana to Chicago or to Cincinnati, Detroit, Cleveland and Buffalo on the interurbans. (When the author made a trip from Cleveland to St. Louis practically the whole way by trolley in June, 1937, to gather material for a magazine article, it was regarded as a novelty. A year later most of the lines were scrapped.)

To keep abreast of the times the Indiana Railroad launched an all-out modernization program totaling nearly a million and a half dollars. Most of the money went toward purchasing 35 modern deluxe interurban cars

familiarly known as "the high-speeds." Equipped with magnetic track brakes, trucks especially constructed to avoid nosing, and carefully designed seats and interiors, the cars were well received by the public. Then, too, their fleetness in gliding over the level Indiana terrain at a top speed of 83 miles per hour (with field taps) elicited much favorable comment. Not only were they the last word in moderate-size lightweight interurban construction in 1931, but even today they are regarded as probably the smoothest-riding cars of their type anywhere. (A complete roster of Indiana equipment appears in Bulletin No. 17 of the Central Electric Railfans' Association, from which much information for this article has been taken.)

Improvements continued apace, especially during the first few years of the merger, with large expenditures on the main stem and smaller sums alloted to secondary lines and city operation. Not every car was modern, few were new, but virtually all were kept in good condition. When one considers the amazing variety of rolling stock on the system —single-truck Birneys in Richmond, Terre Haute and other communities, small double-truck street cars in Fort Wayne, huge 50-ton R. P. O.-passenger jobs lumbering between Indianapolis and Fort Wayne via Peru, and the high-speeds on the main runs—the complexity of operating a huge interurban line is obvious. Too, there was freight equipment: locomotives, box motors and a squadron of dump, gondola, box, express and livestock trailers. All of this rolling stock was painted and kept up in the Indiana's giant program of rehabilitation.

To economize, the company discontinued the vexing and costly local service sandwiched between the limiteds. Henceforth all through trains, barring the aristocratic *Hoosierlands* speeding between Indianapolis and Fort Wayne, performed local service. The use of the high-speeds accelerated the way-passenger business and brought only a slight increase in terminal-to-terminal running time. By 1936 nearly all passenger equipment, except of course the railway post-office units, had been made into one-man operation. With expenditures cut to the bone, the only other way to make both ends meet was to attract more passengers and haul additional freight.

In 1933 the old 3-cents-a-mile rate was slashed to 2 cents one way and 1.5 cents round trip. Commutation rates were likewise cut, and penny-mileage books inaugurated. Attractive interurban calendars hung on the walls of hotels, stores and barber shops. One illustration which provoked much favorable comment showed a little boy with his dog comfortably sitting on the high red plush seats as the genial conductor came for his ticket; other calendars depicted homey Indiana folk riding the cars. Along the highways billboards proclaimed the advantages of interurban travel, in newspapers carefully worded and attractive advertisements publicized the electric railway, and even over the radio came that familiar line, "Ride the interurban."

Concurrent with the betterments in passenger operation was a vastly improved freight service. Realizing that interchange freight between the Ohio, Michigan and other Indiana electric lines was sharply declining like the interline passengers, the company made a strong bid for intrastate haulage. The l. c. l. business was featured by improved trolley-freight schedules and a system-wide pickup

Symbol of a freight service that was.
The interurban box motor is the symbol of a fast less-than-carload freight service that has passed into history. This is No. 726, formerly Indiana Service Corporation, snapped in 1939.

W. A. Steventon.

and delivery service. But try as it would, the management could not make the railroad a paying concern. Her one-time passengers could not be lured from their automobiles and buses. In the smaller communities agencies were discontinued, stations boarded up, and passengers were obliged to pay the operator on the car. The Indiana scene no longer featured the interurban—more patrons drifted from rail to road, from trolley to automobile. Unlike the branch line steam railroad, the Indiana's principal stock in trade was passengers, and when they stopped riding the trolleys it was inevitable that the cars would cease to operate.

The severe highway competition plus the curtailment of industry in the lean years of depression forced the Indiana Railroad into receivership on June 28, 1933. Three years later, when business conditions improved, the receiver, Bowman Elder, purchased the strategic Dayton & Western Traction Company at junk value, thereby continuing the link with the Cincinnati & Lake Erie Railroad. But an epidemic of labor troubles in many Hoosier factories during 1937 and a strike in the company's own Anderson power plant made drastic retrenchment necessary. With one fell blow the receiver abandoned the unprofitable 124-mile Indianapolis-Newcastle-Dayton line, which included the newly-acquired Dayton & Western.

Meanwhile the property suffered, grass grew up along the right of way, train service was reduced and maintenance cut to the bone. On the main stem between Indianapolis and Muncie the company had no money to bond the rails, and night operation caused the track to sparkle like a small-scale Fourth of July celebration. Trainmen wore a look of uncertainty and passengers began to inquire when their particular line would go as the company plunged deeper into the red.

"When they pull another line," a grizzled freight motorman told me as he sat in his switcher in the Kentucky Avenue Yard in Indianapolis one night waiting for the *Hot Shot* from Louisville, "it will virtually mean scrapping the whole system. You wait and see, one more abandonment like the Dayton line and it will mean the beginning of the end —there'll be no more Indiana."

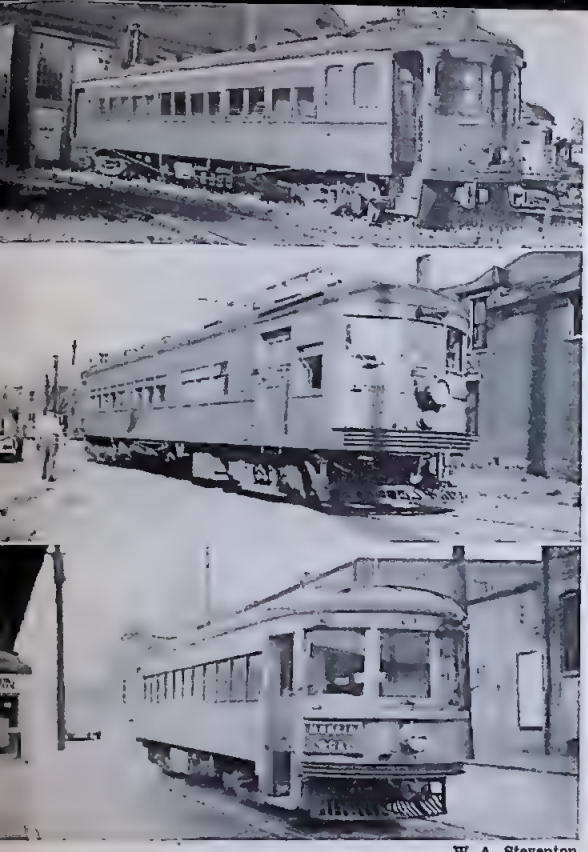
From that time on came a succession of abandonments: the Indianapolis-Peru-Fort Wayne Division on the north and east; the Terre Haute line on the west, the Seymour-Louisville run on the south—a total of 262 miles in less than three years. From 827 miles in 1931 the Indiana shrank to 204 miles before its final abandonment. Buses were substituted by the company for all but the Seymour line. It was a prelude to the cessation of all rail operation in 1941.

Curiously enough, the last trolley to operate on the typical American interurban was a line car out of Muncie on January 21, 1941 (three days after passenger service was officially discontinued); and Muncie in turn will be recalled as being chosen by Robert and Helen Lynd, two Columbia University sociologists, to represent a typical U. S. community. Yet in describing the town in their now-famous books entitled *Middletown* and *Middletown in Transition*, they scarcely mention the electric line.

The line from Indianapolis to Seymour was operated under a 999-year lease which required by law a train-a-day service. This was maintained after all the other passenger lines were abandoned, but here fate intervened; two cars

W. A. Steventon.

A steeplecab work motor.
An interurban railroad needs an assortment of odd cars, snow plows, work cars, line cars, locomotives, dump cars. Work motor 787, snapped in Terre Haute, looks like a steeplecab loco.



W. A. Steventon.

The story of the interurban.

The development of the interurban car is told in these three photos. The old-style car (steel, but it could have been wood) was the *Elwood*, of the old Union Traction. No. 375 is one of the heavy coach-R. P. O. units used on the Fort Wayne run. And the Indiana lightweight was the acme of interurban development. It was a fleet, comfortable unit, skipping along over even the bumpiest track.

collided and the line is no longer operated, although the latest word is that it may be rehabilitated because of the location of an army post near Columbus.

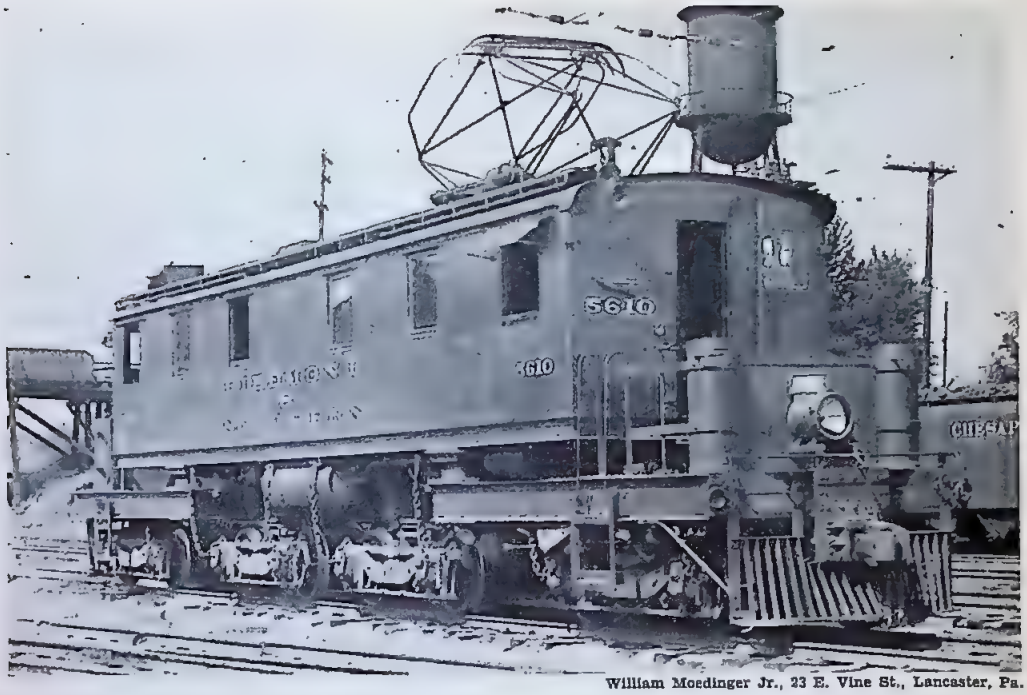
Strictly speaking, however, the Indiana Railroad is not completely scrapped, although to all intents and purposes its original usefulness is ended. There is still about seven miles of electrically operated track out of Terre Haute for interchange from the Milwaukee Railroad to Bobolink Mine No. 7. How long this sole survivor will continue is anybody's guess.

IN REVIEWING the tragic history of the Indiana we are forced to conclude that even with rigid economy, improved service, modern equipment and aggressive publicity this interurban line was never a paying concern, never able to be in the black except for a slight net income in 1936. Unusual? Not at all. The remarkable thing is that the company operated as long as it did. Indeed, there is not one really big interurban line operating today which does not rely on freight interchange from steam roads to earn its keep. Even the moderately sized properties catering mostly to passengers, such as the West Penn Railway and Lehigh Valley Transit (both in Pennsylvania), can be counted on your fingers.

The abandonment of the Indiana Railroad System may be attributed to the fact that it did not haul its freight, or even its passengers, by the trainload. On account of sharp curves in urban communities interchange freight with the steam roads was practically impossible, hence the economy of long trainload operation could never be realized. The Indiana was first and foremost a passenger-carrying line operating individual units except for special runs or in l. c. l. freight service with trailer operation. As long as the passenger business held up it could meet expenses and even make money.

Now the Hoosiers lament the passing of their own interurban—or do they? The salesman who makes the popular Indianapolis-Fort Wayne run finds the substitute buses take slightly longer than the cars they supplanted. The commuter may find it a bit difficult to read his paper in the motor coaches and to spread his feet and relax as he did on the roomy trolleys. Perhaps, too, his wife, in driving to town, will comment on the increased congestion brought about by additional buses and trucks. (The old interurban somewhat retarded her automobile on Main Street but it obligingly forsook the highway for its own right of way promptly after leaving town.) And some communities are missing the taxes derived from rail operation. Yet, by and large, the former trolley patrons will take the new order as a matter of course and turn to the headlines to learn Hitler's latest maneuvers or see how the local ball team made out.

So death came for the Indiana—the last big typical interurban, and with it ended a short but colorful phase of American life. Weeds will cover the last rotting tie and the elements will crumble every bridge abutment, but time will never blot out the significant role the electric lines played in the social and economic development of America.



William Moedinger Jr., 23 E. Vine St., Lancaster, Pa.

Successors to the interurban.

Successors to the business of the interurban are the private auto and the bus. But successors to the interurban heritage are the heavy electric railroads. Piedmont & Northern down in North and South Carolina does a two-million-dollar annual freight business on its 189.3 miles. Chicago, Aurora & Elgin is so busy hauling passengers on its high-speed lines to Chicago's western suburbs that it would like to have more equipment.

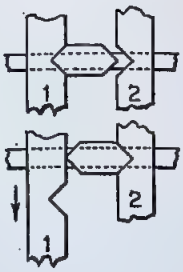
Alexander L. H. Darragh, 4710 Woodlawn Ave., Chicago, Ill.

Smoke, steam and sound on the Rio Grande.

R. H. Kindig, 3831 Perry St., Denver, Colo.

Trailing its string of freight, Denver & Rio Grande Western articulated No. 3615 swings its bulk around curves, under jutting cliffs, and over bridges and trestles fighting its way up South Boulder Creek Valley to the East Portal of the Moffat Tunnel. No other sight can tingle the senses as does a giant locomotive battling mountain grades, the cannonading of its exhaust echoing from one rocky slope to another.

Earl Ruhland, 2614-B N. 2nd St., Milwaukee, Wis.



How it works.
In order that trains may proceed safely and without delay over junctions and complicated track layouts at stations, the signals and switches are interlocked. This is done by alloting one operating lever for each switch, derail, or signal, and connecting each lever to a notched locking bar. Between the locking bars small pieces of metal called "dogs" are free to move from side to side. The sketch above shows two locking bars, 1 and 2, and a dog between them. With both locking bars in normal position (upper) either can be moved, but as soon as one is moved the dog slides over and locks the other firmly (lower). This is the basic principle of all mechanical interlocking. Now of course all locking isn't mechanical. In some of the very newest plants it is done by electrical relays, but even the so-called all-electric plants (as distinguished from relay interlockings) use mechanical locking between the

A Live Spot on Any Railroad

No passenger train could safely hit a railroad crossing at better than a mile a minute, as in the above photo of a Milwaukee Road engine at Duplainville, Wis., were it not for the safety of interlocking. And the interlocking tower on any main line is probably as live a spot as can be found.

Here the towerman puts in his eight-hour tricks, pulling the levers in the correct order as each train comes along, lining up the switches first, then clearing the derails, the home signal and finally the distant signal.

A railroad aroma hangs over the place. The desk is well worn, but toward the back edge is a telegraph set or a telephone in which the life of the division pulses constantly. Spread out in front is the train sheet, that bit of ruled paper on which is recorded every train movement past the tower. Lanterns and train order hoops hang near the door. Train orders bulge from a spike file on the wall.

Even a big and busy metropolitan terminal tower has that same aura. Step into the busy South Tower at Union Station, Chicago. The sounds of trains fill the air. Outside is slip switch beyond slip switch with trains and engines shuttling back and forth constantly. It would seem beyond the powers of man to keep all this straight. But organization does it, organization and a perfect mechanism that

makes mistakes impossible. The towerman is now a tower director, doing only the paper work, wondering how with two extra sections of the *Liberty* and one extra *General* he is going to fit everything into 14 platform tracks and still have room for the beginnings of the Burlington evening suburban rush. Levermen do the actual work of setting up the routes through the maze, carrying out the orders of the tower director.

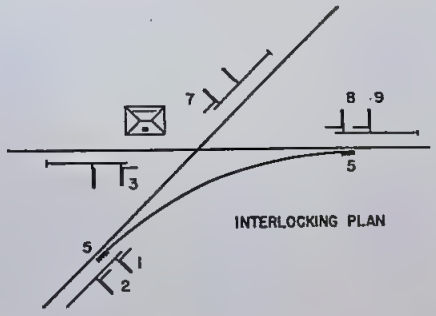
Or stop in at this busy 180-lever tower just outside a large city. It has been snowing for several hours. Two hundred men struggle outside with shovels, fighting to keep the switches clear. The dispatcher has issued a slow order holding all trains to 10 miles per hour through this junction. The towerman uses a megaphone to shout for help in moving this switch and that. But the real drama is on the phone line. Listen in. The division superintendent is at the dispatcher's shoulder, taking the phone every now and then himself for advice to this stalled engine crew, to that station agent. On the other end of the division wire is the general manager of the road. And here in the tower we are in a front-row seat for this show!

Snow, or rush, or sultry Summer day, the interlocking tower plays its part in keeping trains moving. And the tower is always the live spot on its bit of railroad.

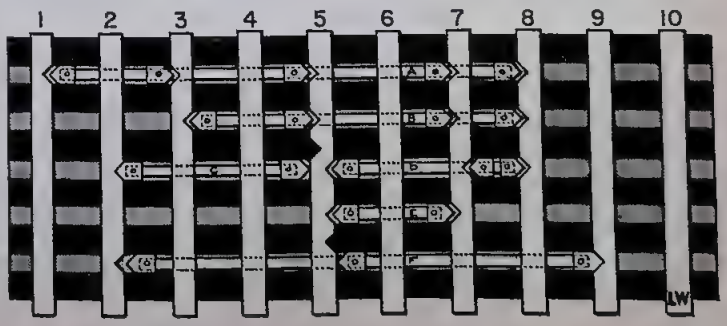
Earl Ruhland.

Tower and train.
No fake or pasteup is this shot of a signal tower interior and the approaching train. It was done at one exposure with well-planned lighting, and is Milwaukee Road No. 46 bearing down on Duplainville, junction with the Soo Line north of Waukesha, Wis. The interlocking machine is an old-style full-mechanical which moves the switches by means of rods such as those in the large photo.

levers which control the electric switches and signals! And even with relays the same planning principle still holds. So let's take a good look at a simple, but typical, interlocking plan (bottom right). The junction has high, or main, signals in all four directions and obviously only one should be cleared at a time. So in reversing, or clearing, lever 1 must lock 3, 7, and 8 in the normal or stop position, and must lock switch 5 in the normal position as well. Signals 2 and 9 are the low-speed arms and indicate for the wye track, so must naturally lock the wye switches in reverse position. This same reasoning is carried out for each signal or switch lever and results in the locking sheet which shows what should be done. The plan of the notched levers and the dogs shows how it is done in cold steel. An actual plant would be more complicated, usually with derails at each signal in case a train disobeys a stop indication.



LOCKING SHEET	
Reverse	Locks
1	5 3 7 8
2	(5)
3	5 7 8
4	Spare
5	
6	Spare
7	5
8	7 5
9	(5) 2
10	Spare



Tobacco-Belt Road

★ Lumber, spuds, and the golden leaf keep the wheels rolling on the 733-mile Norfolk Southern.

A MEDIUM sized up-to-the-minute Class 1 railroad is the Norfolk Southern Railway, just emerged from bankruptcy. It has 733 miles of line, serving the tidewater area of North Carolina and running back through the center of the state into the lumbering and tobacco lands. The main terminal of the line is Norfolk, Va., busy port and rail center, and the road stems south and west from Norfolk to Raleigh, Durham, and Charlotte, N. C.

During the receivership all but 190 of the old freight cars were scrapped, and five fast Berkshire type steam locomotives were added. The road was reballasted with crushed stone, heavier rail was laid, shop tools improved, and steel bridges were replaced or strengthened.

The 51 locomotives, most of them Consolidations, move a light traffic in comparison with the average Class 1 road, but with reduction in fixed charges the new company should make a go of it. The western end of the territory, especially, has very good potentialities.

At New Bern, N. C., in the tidewater section, is one of the largest lumber mills in the world. Here giant logs are hauled in by Norfolk Southern and finished lumber is taken away. Adjacent to the New Bern mill is an unlimited supply of pulpwood, pine, gum, ash, hickory, cypress, and oak. All told, lumber, shingles, and laths account for 9.5 per cent of the road's freight revenues. Tobacco is second highest product, accounting for 7.7 per cent.

Durham, on a branch with freight service only, is the world's largest tobacco auction center. One may ride the Norfolk Southern to Raleigh, and then sidetrip on the Southern

Richard E. Prince Jr., 1141 Larchmont Crescent, Norfolk, Va.

to Durham to witness sales of huge stacks of the golden leaf. The chant of the auctioneer gives a thrill to be remembered.

The trip on the one passenger train a day between Norfolk and Raleigh is scenic, through characteristic low coastal country, sandy and swampy. The rails cross sounds and inlets on long trestles and bridges, including a six-mile jump across Albemarle Sound. At one time entire trains, including the engines, were ferried across this inlet.

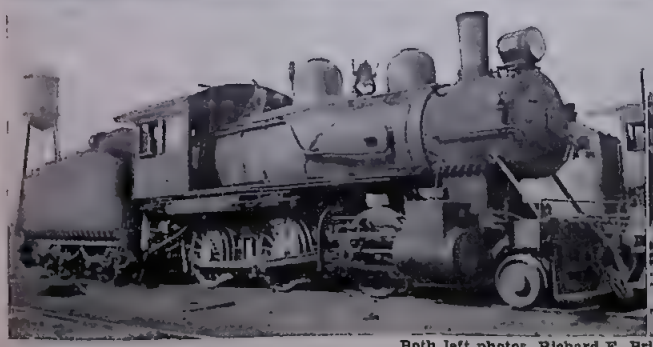
As the train clicks off the miles one may catch fleeting glimpses of laborers in the vast North Carolina potato fields. The spuds provide Norfolk Southern with a substantial slice of revenue, nearly 7 per cent of all freight. A swift, dependable carrier is necessary in moving a seasonal crop of this nature, so the railroad studied crop conditions for a long time before actually laying track connections. The new 2-8-4's, acquired in 1940, are of especial value in pulling the fast potato extras.

At one time Norfolk Southern operated an electric division. This ran from Norfolk to Virginia Beach via two routes, a direct line of some 16 miles and an indirect line of 25 miles via Cape Henry. Now these lines are operated with steam locomotives for freight and with four gasoline rail-buses for passenger service.

Richard E. Prince Jr.

Norfolk Southern locomotives.

Bound for the swampy tidewater country is the passenger train on the opposite page, leaving Norfolk Terminal Station behind NS engine 132, a Ten-Wheeler built by Baldwin in 1913: 20 x 28-inch cylinders, 60-inch drivers, 31,800 pounds tractive effort. But the Norfolk Southern trains don't run there any more. Following a trend of many small railroads, the NS has cut its terminal expenses by using a smaller station at Berkley, Va., and passengers are transferred by bus. The other engines are typical of the bulk of the road's roster. The freight train was snapped at Fairmount Park, Va., and the small streamliner is one of the gasoline-driven rail-buses on the one-time electric division to Virginia Beach.



Both left photos, Richard E. Prince Jr.; both right, H. Reid, 1202 Redgate Ave., Norfolk, Va.

Over the Berkshires

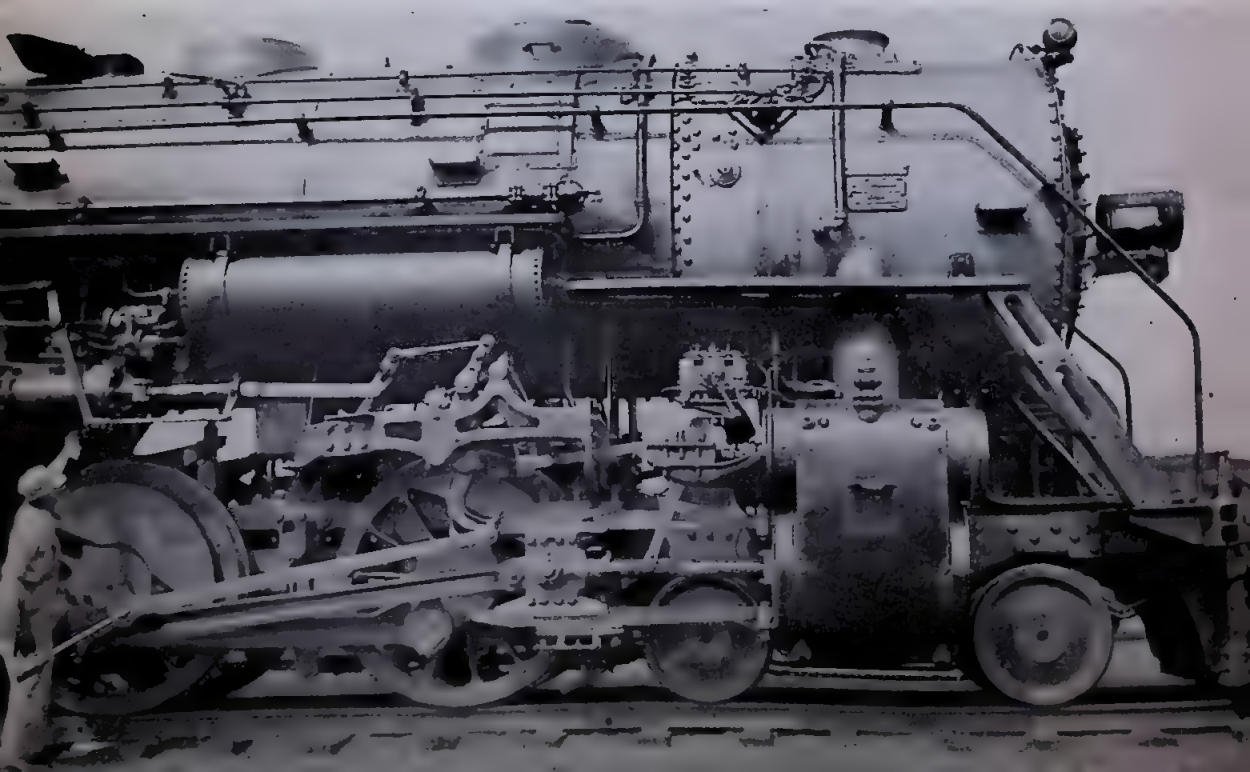
By H. W. Pontin.

ALBANY, crossroads of the East! Here the natural Mohawk Valley route east and west joins the Hudson Valley-Lake Champlain route north and south. Up the hill from the river puffed the first locomotive in New York State, the *DeWitt Clinton* of the Mohawk & Hudson. Here Commodore Vanderbilt's river steamers met the trains from Buffalo, and here later his Hudson River Railroad met the New York Central. And in the bustling two-level Central station switch engines work around the clock, taking apart trains from Chicago and St. Louis, shifting cars to Montreal and Boston, helping the great flyers up the hill to West Albany.

We come into the upper level at 11:14 a. m. on the New York Central's *Lake Shore Limited* from the West. Our train carries cars from Chicago, Cincinnati, and St. Louis, and goes on to both Boston and New York. We are to ride the Boston & Albany, and here we stand at the gateway to the Berkshires, watching the crowds on the platform, the people climbing the stairs from the waiting-room below, the switcher busy in the coach yard beyond the main line tracks. The *Lake Shore Limited* is rapidly dissected, and while this goes on, at 11:20 a Delaware & Hudson train from Binghamton arrives on the lower level of the station, where West Shore trains also terminate. D&H trains in the other direction serve the Adirondacks and Montreal.

The New York City train pulls out at 11:26, the through sleeping car for Boston via Boston & Maine is cut into a local train for Troy, and at 11:30 on the head our B&A train swings east around the sharp curve onto the Hudson River bridge. In front is one of the 20 B&A Hudson type locomotives, her silver smokebox front glistening. Her drivers are 75-inch rather than 79-inch as on the NYC Hudsons, giving her an edge in tractive effort badly needed in the Berkshires.

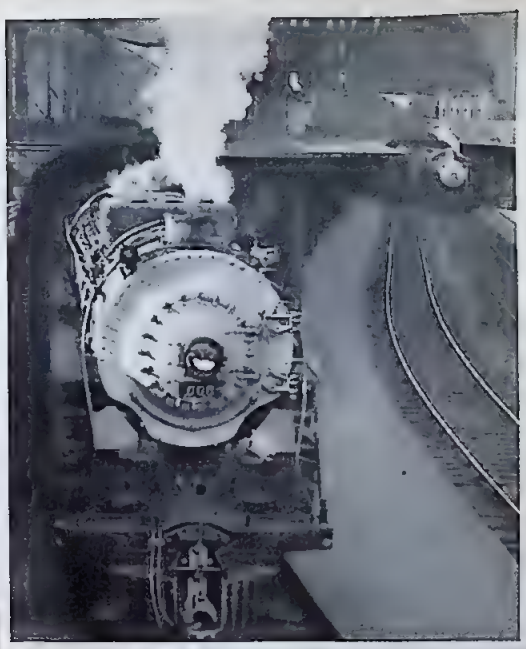
From the high-level swing-bridge we look down on ocean-going tramp steamers, the gay pleasure boats of the Hudson River Day Line, the towering D&H Building, and the neat tracks of the West Shore near the river's edge. On the east bank we gather speed past the huge engine terminal on our right and head into the grade, southward up the bluffs. Below us, on the Hudson River Division, gleams the stainless steel *Empire State Express* coming in from New York



★ Guide book to a trip on the scenic Boston & Albany, NYC's New England brother.

City. The four-track river road looks from here like the veritable speedway it is, a main artery of the nation's commerce.

Just past the station at East Greenbush a range of typical Berkshire hills closes the view, and we climb more and more through rolling tree-covered hills, range after range of them, topped by higher peaks now and then. Brookview, Van Housen, Post Road Crossing . . . quiet little



All pictures by H. W. Pontin, Railroad Photographs, 47 Royal St., Allston, Mass.

Along the Boston & Albany.

Typical of the B&A main line is the twisting curve and rock cut above. The 612 is a Lima-built Hudson and it is ascending a 90-foot-per-mile grade at this point, near Middlefield, Mass. The train is the *Ohio State Limited*, and the smoke and steam effects are by previous arrangement with the engine crew. Top photo shows Hudson 608 ready to leave South Station, Boston. The well detailed side view is of No. 402, one of the husky 4-6-6 suburban tank engines used in suburban service out of Boston. These double-end Class D-1a locomotives have small (63") drivers for fast acceleration, and rate 41,600 pounds maximum tractive effort. They have many of the outward characteristics of the NYC Hudsons.

stations which our *Limited* disdains with awakening echoes of the engine's staccato bark. Still climbing, the car wheels rythmically click off the endless rail joints. Then Niverville: quiet-sounding name, but point of diversion for the comparatively new branch which takes B&A freight trains to the giant yards at Selkirk, N. Y., southwest of Albany, over the famous Alfred H. Smith Memorial Bridge, some 250 feet above the Hudson River.

We slip past Tower 70, clicking switches and frogs, and then through sleepy Chatham Center to gain speed on a short level stretch before Chatham, N. Y. Here is the junction with another famous New York Central division, the Harlem, while to the north the Rutland makes connection with a busy little freight yard. During the brief station stop we glimpse a Rutland engine at work a few hundred feet to the north. We have covered the 23¼ miles from Albany in just 33 minutes, rather smart timing considering the heavy grades and the necessarily slow progress out of Albany terminal!

Sharp curves now abound, uphill work through East Chatham, Canaan, and Edwards Park—all scenic gems, nestling at the foot of rolling Berkshire Hills. We head with ever-quickening gait for State Line, dividing point between the states of New York and Massachusetts. A sleepy station flashes by, and we swing out into a veritable vista of beauty, as the glory of the Lebanon Valley lies panorammed beneath us. Undulating farm lands, beribboned with winding highways, framed in range after range of azure blue hills on all sides—this describes in part the approach to the only tunnel on the B&A. State Line Tunnel is driven through solid rock formation with towering hills above it. The approaches are forged through deep rock cuts, whose sides reverberate in quickening tempo to the voice of the locomotive ahead, still climbing and working hard.

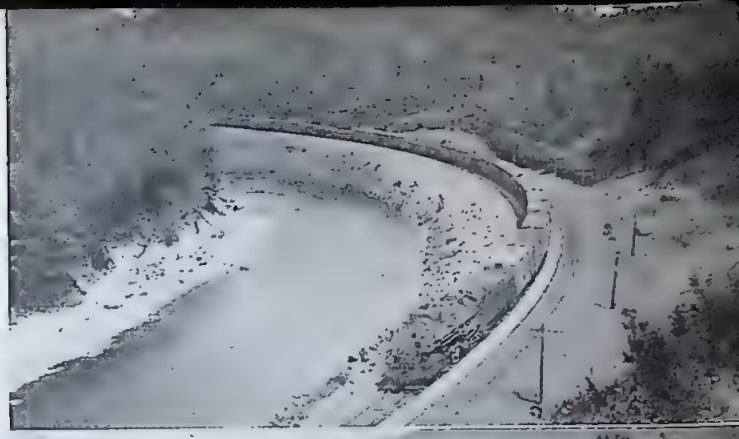
Through the rock cut and out in open country, past fertile farm lands and residential estates; past October Mountain, a lone towering peak framed in the hills beyond; we hammer through Richmond Furnace with the age-old iron furnace a mass of picturesque ruin; through Richmond itself, sleepy wayside station; and ever climb to pass Richmond Summit. Now we come to a three-mile level stretch to West Pittsfield, outpost of the capital of the Berkshires; the running is easy now, the lineside dotted with mercantile activity and, up on the surrounding hills, Summer homes. Slowly we glide into the broad expanses of Pittsfield's modern station, a revelation in modern architecture. Here the New Haven's Berkshire Division joins us, and to the north is the B&A's scenic North Adams Branch, over which through New York Central trains run from New York via the Harlem Division.

While our Hudson takes a long drink, a snub-nosed, husky Mikado appears quietly from nowhere and gently attaches itself to our rear car. Brake test, two short whistles from each of our engines, and with stack music fore and aft we are once more under way, this time battling the hardest climb on any Eastern main line stretch. We swing down a short, deceiving dip past the giant General Electric Works, over the clanking switches of North Adams Junction, and, with both throttles opened wide, attack the business of surmounting a grade which rises at the rate of 90 feet to the mile. I defy any railfan to sleep or read a book amid such music!

Both powerful locomotives work at full capacity and even then there is a perceptible slowing down in headway—an excellent opportunity to view the changing panoramas of lineside scenery too! Dalton, lying in the valley to the south, houses Murray Crane's paper mill, which makes only U. S. Treasury Note paper. Summer camps glisten white in the sunshine, and we see leaping waterfalls and inviting trout streams, Hinsdale with its mills and water; and at last we come to a thunderous stop at the quiet village of

At ease.

Railfans in the armed forces are railfans still, but they usually lack the cash for even such a necessity as TRAINS. If you have a friend in the army, navy, or marine corps, why not sit down this minute and order a subscription for him? Gifts are even more appreciated when it isn't Christmas!



H. W. Fontin.

Berkshires in the hills.
These are Berkshire type (2-8-4) locomotives in the hills from which they take their name. Both locomotives were built by Lima, and both are on eastbound fast freights in the country west of Springfield, Mass., in the upper photo at Turtle Bend, near Russell, and in the lower at Huntington, coming down the hill from Washington. The river is the Westfield River, with a slice of Mount Tekoa to the extreme left. The green mountains and clear stream are typical of the Berkshire scenery along the B&A.

Washington—quiet for the citizenry, perhaps, but lively for railroad circles. Here our pusher is detached, and while we again test the brakes for the long downhill glide ahead, Mr. Mikado ambles back toward Pittsfield.

Two sharp whistles from our engine and again we are under way, this time gently, for before us lies just as steep a downgrade as the climb we have just experienced from the west! We are high, now, with Berkshire country laid out before us—a bird's-eye view in truth! Curves galore follow the line of least resistance around towering hills, crossing and recrossing stream after stream. With cautious running and brakes gently taking hold every now and then we glide through Becket, then Middlefield, scenes of disastrous floods in 1927, when this very main line was completely washed away. We come to Twin Ledges, giant walls of rock through which the tracks curve sharply, with watchmen, day and night, maintaining eternal vigilance for falling rocks, making personal inspections prior to the passing of every train.

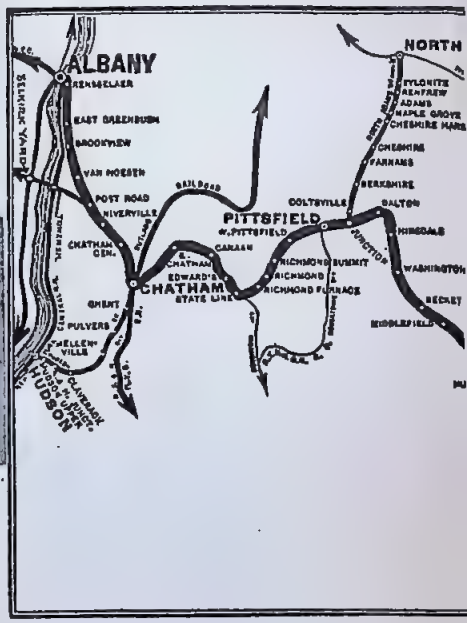
Now we are under the shadow of Mount Chester and in the Berkshire community of the same name, which sports, among other attractions, a modern engine terminal housing a fleet of Mikados used to assist trains up this grade to westward. We have smooth running, still downgrade, with the winding Westfield River hugging us closely. Brakes screech for slower speed at famed Turtle Bend, sharpest curve on the B&A main line—30 miles per hour permanent slow board. Just look out your window. You can easily see the engine cautiously bringing the train to straight iron at scenic Russell. The winding river and new state highway are constant companions now, under Mount Tekoa and through Woronoco, with its giant waterfall which, besides being a typical Berkshire feature, drives the presses of the Strathmore Paper Company.

More level running amid gradually widening country to Westfield. This is a thriving community, with a mayoress in charge if you please, carrying for years the official stamp of the Commonwealth of Massachusetts as being its cleanest town. We glide to a stop in the long station at 1:49, a little over two hours out of Albany. You might like to know that Westfield was formerly famed for its horse whips, an industry long gone. That line we just crossed over at grade, running north and south, was formerly owned by the old Central New England Railroad, and is now part of the New Haven System running north to Turners Falls, almost to the Vermont line.

Now the Agawam River is alongside as we glide through Agawam Junction, meaningless spot on the landscape today, but with marks still discernible of a long-abandoned junction point with the CNE. West Springfield! Over

H. F. Harvey, 65 Olcan St., Worcester, Mass.

Boston-Framingham suburban train.
One of the huge 4-6-6 tank engines pulling a Boston-Framingham local, passing Natick, Mass. The front car is one of the newer type arch roof suburban coaches.

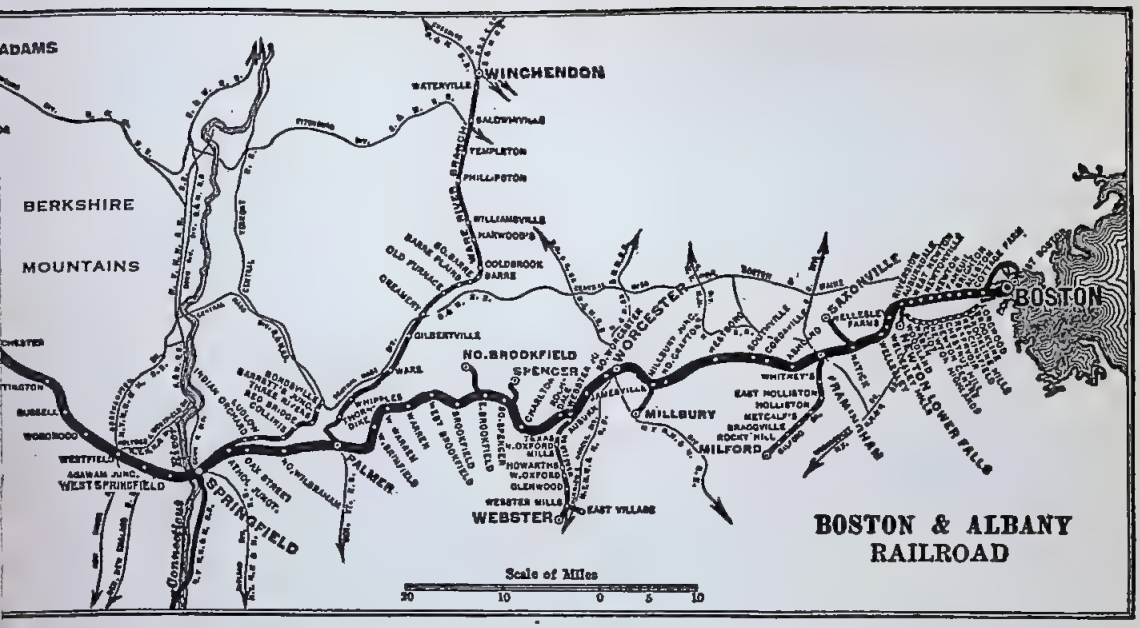


street crossings we go with the chime whistle booming its warning and the bell steadily tapping out brass music. Suddenly our tracks seem swallowed up within a maze of adjoining lines, marking the one industry of West Springfield: Boston & Albany Railroad. On both sides of us are miles of freight cars, busy switchers, road freight engines headed east and west. To the south of us, the giant engine terminals; and just beyond, the locomotive shops, veritable hive of railroad industry. Brakes take hold seriously as we thread our way cautiously through all kinds of lineside activity to the quarter-mile-long bridge over the Connecticut River, looking southward toward Hartford and other Connecticut points, northward to the hills of New Hampshire and Vermont. We run at slow speed over myriad frogs and switches and finally come to rest in Springfield Union Terminal.

Elevated above busy Main Street, rebuilt recently by the B&A at enormous cost, the station makes possible quick and efficient dispatch of the many trains which daily use its facilities. The B&A acts as landlord to the New Haven and Boston & Maine, besides caring for a heavy flow of passenger and freight traffic of its own. The New Haven operates a frequent service of trains to New York City, direct via Hartford and New Haven, while the Boston & Maine makes the Union Terminal the southern extremity of its popular Connecticut River Division. Quite often, engines from the Canadian National and Central Vermont come through on B&M trains from Montreal, thereby adding variety to the scene. Also to vary the monotony, B&M engines sometimes work New Haven trains as far south as New Haven, Conn., and New Haven engines sometimes like to see what the B&M Connecticut River Division looks like to the north. Variety is the spice of life!

The B&A's 200-mile stretch of main track is operated as two divisions. Springfield marks the dividing point between the Albany and Boston sections, and on going to the head end we see the change of engine crews. Our Hudson will continue on to Boston. Cars may be added as operating conditions demand. The tank is once more filled, and hoards of busybodies fill grease cups and put touches here and there for the last stage of our run. The two engineers hold a short conference on the behavior of the iron steed beside them. Our conductor comes up, perhaps with some more orders. With the bell tapping it out once more our Pullman porter gently shoos us inside, and the long train of varnished cars is once more under way.

Directly out of Springfield lies a three-mile hill—rather a stiff climb, although a husky switcher is churning behind us, assisting the



B&A and connections.

The Boston & Albany hasn't many branches. It is essentially a through railroad trunk connecting Boston with the West. There is plenty of meandering, as New England is mighty rugged country even east of Springfield, and of course between Springfield and Albany lie the Berkshires. The 199.7 miles of main line and 64.4 miles of branches are leased to the New York Central until July 1, 1999, for two million dollars a year. The New Haven has fifty-fifty traffic rights over certain portions.

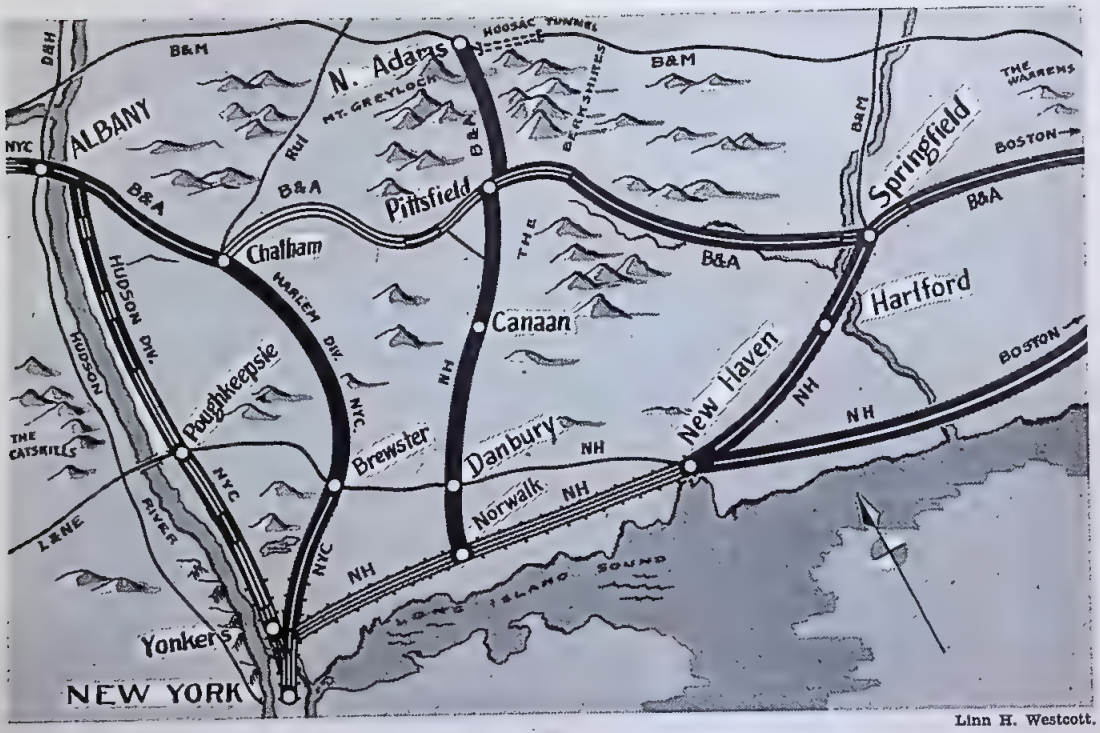
more strident efforts of Mr. Hudson. Together they'll make short work of it, but to try that hill you ought to ride a freight engine with heavy tonnage, when it takes 15 minutes or so to make the top! Athol Junction is passed at the top of the grade, and once on level ground our Hudson really gives a demonstration of that sustained high speed for which the design is famous. North Wilbraham flashes by with the Miller River on the south side, and the upgrade to Palmer is hardly noticed. Palmer Station calls for serious slowing down, as the Central Vermont line from Canada insists on crossing us at grade and wending its tranquil way southward to tidewater at New London. The daily mixed B&A train from this point to Winchendon, New England's toy town, makes Palmer its southern terminal. The lone engine has her own house!

Rapidly accelerating on the level

You ought to see it go.

A young lady recently visited a locomotive works and later told some friends how a locomotive is made:

"You pour a lot of sand into a lot of boxes," she explained, "and you throw old stove lids and things into a furnace. Then you empty the molten stream into a hole in the sand and everybody yells and swears. You pour it out and let it cool and pound it, then you put it into a thing that bores holes in it. Then you put it together and paint it, and put steam in it, and then take it to the drafting room and make a blueprint of it. But one thing I forgot; you have to make a boiler. One man gets inside and one remains outside, and they pound frightfully. Then you tie it to the other thing, and you ought to see it go."—*Canadian National Magazine.*



Linn H. Westcott.

Trips to B&A territory.

From New York City one can take a number of one-day trips into the Berkshires and to or along the B&A. The routes up to the B&A main line include the NYC main stem along the Hudson River to Albany, the NYC Harlem Division up the eastern edge of New York State to Chatham, the New Haven up the western edge of Connecticut and Massachusetts to Pittsfield, and the New Haven Connecticut River line to Springfield. Using any combination of routes for a round trip one would pass through Pittsfield, and so we have worked out suggested schedules on the basis of to and from Pittsfield with a suggested side trip from Pittsfield to North Adams, at the west end of the B&M's Hoosac Tunnel, as an added attraction. Be sure to heed the reference marks denoting days on which trains run, and better also check current schedules before actually taking a trip, as in these times schedules may be changed at any time. As in all TRAINS' maps, the cross-tied lines indicate electrified territory. Single, double, triple, or four track is also shown. Photos show station at Chatham and scenes near Boston.

TO PITTSFIELD						
	DAILY	EX-SUN	EX-SUN	SUNDAY	SAT.	SUNDAY
Train	NYC-1*	NH 140†	NYC-51	NYC-43§	NYC 51*▲	NH 138§
New York	7 17	8 15	8 33	8 10	9 00	7 55
Albany	10 34	— —	Via	Via	11 42	— —
Train	B&A 22*	Via	Harlem	Harlem	B&A 358●	Via
Albany	11 30	Canaan	Div.	Div.	12 30	Canaan
Chatham	12 03	and	12 15	11 25	1 14	and
Train		Danbury	B&A 308†	B&A 410‡§		Danbury
Chatham	12 03	— —	12 20	11 28	1 14	— —
Pittsfield	12 43	12 50	1 05	12 13	2 00	12 05
NORTH ADAMS SIDE TRIP						
Train			B&A 308†	B&A 410‡§		
Pittsfield	— —	— —	1 07	12 15	— —	— —
North Adams	— —	— —	1 50	12 58	— —	— —
Train			B&A 221‡‖	B&A 341‡§		
North Adams	— —	— —	3 10	4 50	— —	— —
Pittsfield	— —	— —	3 53	5 34	— —	— —
FROM PITTSFIELD						
	DAILY	EX-SUN	EX-SUN	EX-SUN	SUNDAY	SUNDAY
Train	B&A 22*	NH 143†	B&A 40*	B&A 221‡†	NH 145§	B&A 341‡§
Pittsfield	12 43	1 47	4 49	3 55	3 45	5 36
Springfield	2 05	Via	6 15	— —	Via	— —
Chatham	— —	Canaan	— —	4 38	Canaan	6 19
Train	NH 53-22*	and	NH 59*	NYC-221	and	NYC 548
Chatham	— —	Danbury	— —	4 41	Danbury	6 20
Springfield	2 25	— —	6 30	— —	— —	— —
New York	5 30	6 04	9 45	8 00	8 00	9 30

‖ Sunday only
* Daily
† Daily except Sunday
● Saturday only

Notes about trains—
▲ NYC—Empire State Express, reserved seats only—Note—B&A Train 358 runs Saturdays only. Trains to and from North Adams run through from New York City via Harlem Div.

SUBJECT TO CHANGE WITHOUT NOTICE

James D. Bennett, 19 Highland Rd., Stamford, Conn.

stretch from Palmer, our 600-type negotiates sharp curves with ease, and, after West Brimfield, commences the hard climb through the Warrens—West Warren and Warren. Then all three Brookfields—West Brookfield, East Brookfield and Brookfield—on dead flat country. Here is where we are likely to see some tall running, for right at the station of East Brookfield lies the beginning of a truly snappy climb. Within the short distance of six miles or so, the line rises 280 feet to Charlton Summit, a moderate grade when compared with some of our Western lines, but it presents some interesting operating problems nevertheless. Ten chances to one, our speed is so great at the foot of the climb that the average passenger will hardly notice the slight slowing down as the Hudson, wide open, roars over the top.

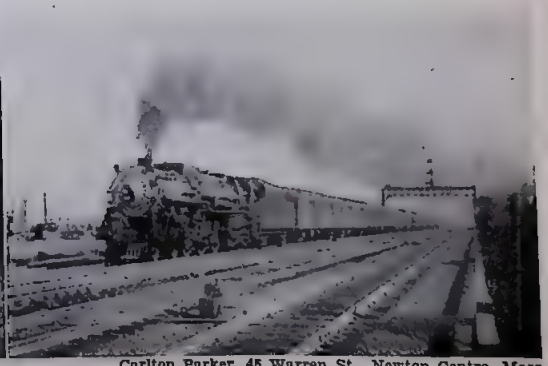
Another shut-off, a running brake test, and we're headed down another long hill of 14 miles or so, through Rochdale and Jamesville, the latter a manufacturing suburb for our next stop, Worcester. Ranking seventh in America's long list of manufacturing cities, Worcester is the distributing point for central New England, making, so it's claimed, every commodity from A to Z. Just before we reach the station the New Haven and Boston & Maine once more join us, this time coming up from beneath and, with a broad swing, entering the terminal on the north side. Once again, the B&A acts as landlord. The smart yellow and white brick structure occupies a prominent position in busy downtown Worcester, and alongside, as if to form comparison between the new and the old, is the towering campanile with clock tower, sole remaining relic of the old Boston & Worcester station, long since removed. This campanile, by the way, was left intact at the request of the city fathers, and forms a prominent landmark visible for quite a distance.

New Haven train service takes one either to Providence, 44 miles to the south, to join the Shore Line to New York, or to New London, Conn., over the old Norwich & Worcester line, to make the same connection. The Boston & Maine will take one to Ayer, Portland, and other Maine points, or even to Montreal! The *East Wind*, streamliner of the Pennsy, New Haven and Boston & Maine, changes engines here on her flight from Washington, D. C., to Bangor, Me., avoiding Boston. This is a colorful day train, Summer only. The famed *Bar Harbors*, multi-Pullman expresses, from New York City to Bar Harbor's cool Summer retreat, show real action here, some sections running as high as 17 Pullmans behind a giant 2-8-4 Berkshire type! Too bad they have to run at night, isn't it?

The joint B&M and NH engine house lies due west on the lower level. The B&A's newest engine terminal is at this point, to the south of the station. Busy freight yards may attract our attention as we head for the Atlantic Seaboard and Boston, 44 miles to the east. Downhill mostly, now, with stations growing more and more numerous. We reach Framingham, another busy junction with the New Haven line—this time the line to Hopkinton, Marlboro, and southward to join the Shore Line at Middleboro. The B&A's 12-mile-long single-tracked Milford Branch leaves main track just west of the station. Here, too, is a fair-sized engine house, accommodating several switchers and local passenger engines, with one of the few main line wyes on the B&A.

Once over the junction, we are again under way, heading for historic Natick, with the highway, used for the famous annual mara-

H. W. Pontin.



Carlton Parker, 45 Warren St., Newton Centre, Mass.

H. W. Pontin.

Leaning into the curves.

The *Western Express* takes a well banked four-track curve at Charlton Summit, with Hudson No. 613 on the

thon run, alongside us all the while; through Wellesley, with its college for girls, its many beautiful buildings plainly seen. Wellesley Hills and Wellesley Farms, adjoining stations, represent topnotch suburban homes, and the broad sweep of the Charles River on its way seaward affords ideal background for the golf course and recreation grounds. Boston University has its athletic field here as well. Across the river is famed Norumbega Park with its zoo and varied entertainment. Residences crowd in closer now as we roar through scenic Auburndale, closing in on the Newtons—West Newton, Newtonville, and Newton proper. All B&A limiteds stop at Newtonville, and no doubt you're surprised to see the many folks detraining here, and the long line of cabs and cars awaiting them above the station platforms. The conductor waves the white handkerchief, and with booster cut in for a speedy start our 600 makes short work of the remaining stretch leading past Allston's busy freight yard and engine terminals.

Presently the Charles River fans out into a broad stream framing the Boston skyline, with the gold-domed state house and other landmarks in clear view. A moment of darkness, as with brakes applied we dive into the long underpass beneath Commonwealth Avenue at Cottage Farm, and we have now entered Boston city limits. Houses line the trackside very closely now, and as we pass the passenger coach yards at Exeter Street (Boston's Fifth Avenue) we have slowed down to a walk for the crossovers to Huntington Avenue Station, below street level and in the heart of Boston's Back Bay. Taxis rush . . . the usual travel scene. Many passengers leave us here, while we continue side by side with the New Haven's main line from Providence to South Station, the main terminal in downtown Boston. Operated by the Boston Terminal Company, the huge structure accommodates the B&A and New Haven jointly, its 24 tracks always witnessing the arrival or departure of some B&A or New Haven movement whether it be the busy commuters' train or some lordly limited. It was once covered by a huge steel arch spreading over 28 tracks,

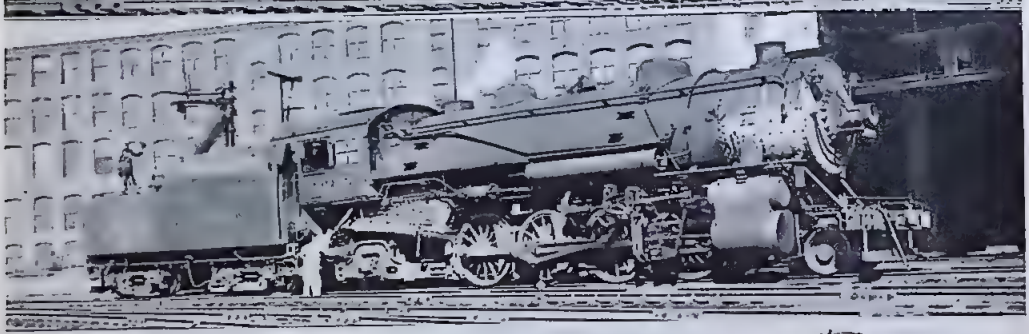
H. W. Pontin.

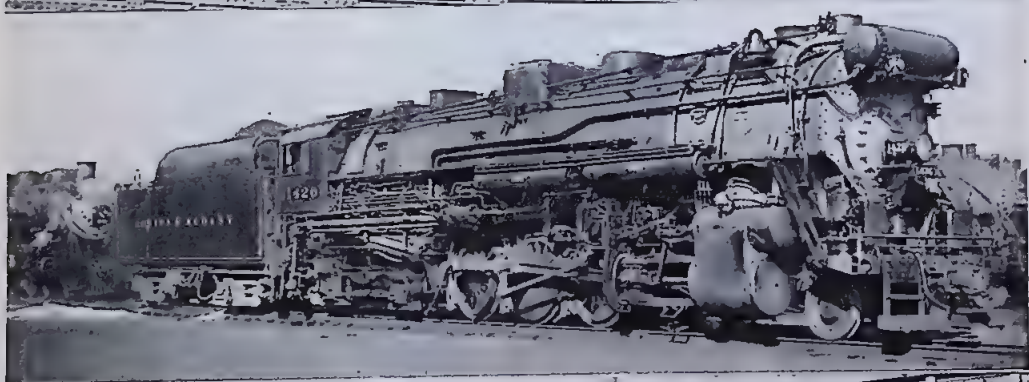
front end. The westbound *Wolverine* banks into another curve at Weston Park, Mass., with Lima-built No. 619, latest of the 20 Hudsons, which have 75-inch drivers, 44,800 pounds tractive effort without boosters.

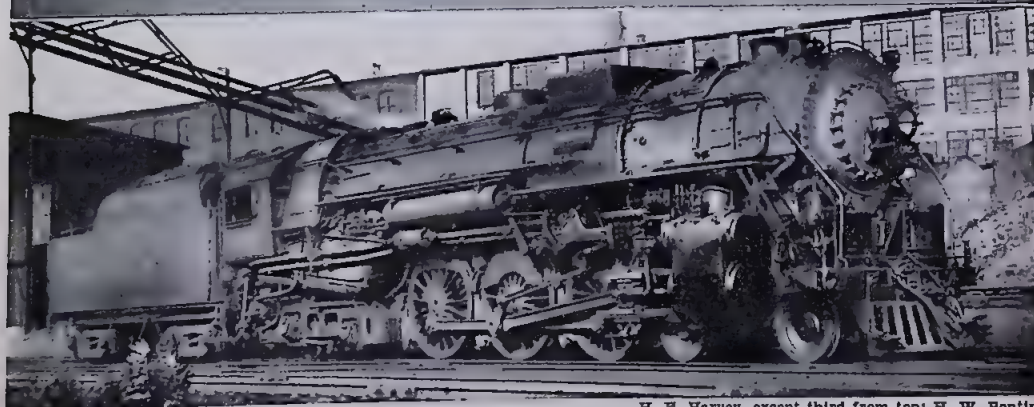
but now has been modernized with platform sheds. A two-track suburban loop was built beneath the station when the structure was erected, but has never been used.

That all-steel local train just leaving represents a fleet of such trains which serve the Highland Circuit, so called because trains make a complete circle, using the main line as far as Riverside, 11 miles out, then taking the Newton Highlands Branch back to Boston or vice versa. In so doing, each train touches some 18 well patronized stations. The series of 22 tank engines, which includes the five mammoth D-1a 4-6-6's, accounted as the world's largest, are mighty useful here. Despite threats of electrification, they carry on. The scenery on the branch is well worth our attention. The double-tracked line (which, incidentally, is equipped with train control throughout) touches places like Brookline, world's richest town; Chestnut Hill, society center and scene of championship tennis matches at the Longwood Cricket Club; Newton Centre and Newton Highlands, all part of the same Newton mentioned on the main line and forming the garden cities of residential Boston.

But perhaps above all in point of railroad interest, the Grand Junction Branch will appeal to the railfan visitor. Passenger trains, unfortunately, were discontinued years ago, the exception to the rule being wartime specials or some private car or two received in the Summer for North Shore connection with the Boston & Maine. Starting at the eastern end of Allston's giant freight yards, the line, nine miles long, is double-tracked for the most part, and ends on the waterfront piers at East Boston. Along its busy trackage a great number of manufacturing concerns are served, and as an example of the service rendered some 176 merchant houses use B&A service within the first quarter mile! Neighboring cities of Cambridge, home of Harvard College, and Somerville include hundreds of manufacturing enterprises, most of which own sidetracks along the branch. Reaching Somerville, the line is single track and crosses and recrosses the Boston & Maine's busy Fitchburg and Portland divisions, gaining ac-







H. F. Harvey, except third from top: H. W. Pontin.

These are typical of Boston & Albany locomotives. The Consolidation (top) is Class G-6h, 1031 to 1049, Schenectady 1908. It has 23 x 32-inch cylinders, 63-inch drivers, 45,680 pounds tractive effort. The Mikado is Class H-5g, 1214 to 1223, Dunkirk 1915; 25 x 32-inch cylinders, 63-inch drivers, 48,570 pounds tractive effort. The Berkshire is one of 55 Class A's, Lima 1926-1930; all have 28 x 30-inch cylinders, 63-inch drivers, 69,400 pounds tractive effort. No. 605 is the first of the second sub-class of Hudsons, J-2b, Alco 1930; 25 x 38-inch cylinders, 75-inch drivers, 44,800 pounds tractive effort.

cess to the miles of hump yard at that point. Resuming double track, the branch touches Everett, Chelsea and East Boston, all waterfront hives of industry. The docks and lighterage facilities at East Boston alone represent an investment of millions of dollars. Ships of all nations use the modern piers, and peacetime activity saw many colorful sailings of giant passenger liners. The grain elevator towering skyward is one of Boston Harbor's landmarks, with the familiar New York Central monogram in huge letters on its tower. No small wonder, then, that the Grand Junction Branch is known as the barometer of Eastern freight business for the Albany line!

The history of the B&A is rich in events. Its first engine, the *Meteor*, came from England. Two lines, the Boston & Worcester and the Western Railroad, joined hands as far back as 1867 to form the present trunk line, which originally operated as an independent company but joined the New York Central family circle in 1900. In addition to the fleet of Hudson type engines, the company owns 55 2-8-4 Lima engines for freight service. These, incidentally, pioneered in this wheel arrangement back in 1924, thus receiving the name Berkshire. At the moment they are all in service battling heavy tonnage over the scenic mountains, while heavy Mikado engines take care of the lighter freight duties and do helper service on both divisions. A few of a once-large fleet of Consolidation engines are well pressed in local freight and switching service. Like other New England railroads, Boston & Albany carries more manufactured goods than anything else. In fact, 53 per cent of its freight tonnage is manufactures and miscellaneous, and only 30 per cent products of mines, 9 per cent farm products.

All in all, B&A is an interesting railroad, an important limb of the nation's second largest system, and, for the passenger, an excellent introduction to scenic New England.

Bound for Cincinnati, St. Louis, and Chicago.

With sleeping cars for Cincinnati and St. Louis and connections for Chicago, the *Ohio State Limited* blasts up the grade to Charlton Summit, west of Worcester. The diner-lounge car in the center of the train will be cut out at Albany and a full diner substituted in time for dinner.

H. F. Harvey.

Colorful Lehigh Valley flyer.

Otto Kuhler, the industrial designer who has done a lot of railroad work including the latest *Hiawatha* and various modern stations, went to work on standard Lehigh Valley passenger cars and Pacific type engines and two new flyers emerged, the *John Wilkes* (below) and the *Asa Packer*. They run between New York's Pennsylvania Station and Coxton, 10 miles beyond Wilkes-Barre in Pennsylvania, providing twice-daily service, morning and afternoon in each direction. The *Asa Packer* was put on first, and the color scheme was yellow and orange with black trim. But the cars got too dirty and engine 2101 appeared at the end of 1938 in gray, red and yellow. When the *John Wilkes* was inaugurated June 4, 1939, the present color scheme of Cornell red with white and black striping made its appearance, and the *Asa Packer* was soon changed over, along with engines 2101, 2022, and 2023. Nos. 2102 and 2089 also were streamlined and painted the colorful red combination, so that now the Lehigh has five streamlined, brightly colored Pacifics to work the four daily runs. The trains are pulled between Newark and New York by Pennsylvania electrics. Equipment of both trains includes coaches, club dining car, and drawing room parlor car. In spite of many stops in the highly built up territory they traverse, the trains maintaining a schedule average of over 35 miles an hour. Principal cities served are Allentown, Bethlehem, and Wilkes-Barre. The *John Wilkes* is named after the ardent defender of Colonial rights in the British House of Commons during the reign of George III. Wilkes-Barre is also named for him.

E. F. Gardner, 47 Charles St., Metuchen, N. J.

Northern Pacific.

North Coast Limited in western Montana.

A short distance east of Missoula, Mont., the *North Coast Limited* of the Northern Pacific rolls east along the south bank of Clark Fork, a major tributary of the Columbia River. Some 10 minutes later the Milwaukee Road's *Olympian* will make a colorful orange and red picture as it moves eastward over the track in the background. The two roads run parallel for about 125 miles, from just west of Missoula to Butte, and travelers on either of the crack transcontinental limiteds may see the other train racing along on the adjacent track for mile after mile. Both roads' eastbound and westbound schedules are nearly identical, and eastbound and westbound trains pass just west of Missoula so that in late afternoon one can watch four trains pass within an hour or so. It was but a few miles east of here, between mileposts 53 and 54 (from Butte) that the golden spike was driven September 8, 1883, to complete the NP. This was a big occasion, and many notables were present, including ex-president U. S. Grant.

Letters

★ Interesting sidelights on railroads as readers observe them.

Largest Switcher.

NEITHER the Baltimore & Ohio nor the Duluth, Missabe & Iron Range deserves honors for the world's largest switcher [see TRAINS, p. 7, Nov. '41; p. 46, Jan. '42]. This distinction is held by the Union Road with its 0-10-2 switching and transfer locomotives numbered 301 to 309. Built by Baldwin, these locomotives weigh 404,360 pounds with 343,930 pounds on drivers. Tractive force is 90,900 pounds or 108,050 with booster. Locomotive and tender weigh 644,360 pounds.

Tom Devorman.

19545 Shrewsbury, Detroit, Mich.

[Our statement which started the discussion read, "There may be heavier articulated or extra-truck locomotives used in switching service."—*Ed.*]

HT&W Only 13 Miles Long.

ON PAGE 34 of the February issue you state that the Hoosac Tunnel & Wilmington Railroad is 25 miles long. It is now only 13 miles long, running only to Readsboro, Vt. Track was taken up between Readsboro and Wilmington after a flood washed out a steel trestle at Wilmington.

Kinsley M. Goodrich.

Jefferson St., Pittsfield, Mass.

Weston B. Lazear collection.

"Biggest, Most Powerful."

YOU stated in an issue of TRAINS that the Union Pacific 4-8-8-4 is the biggest and most powerful locomotive ever built. I disagree with this. According to Alco, the UP engine has 135,375 pounds tractive effort, while the Great Northern Class R-2 2-8-8-2 has 146,000 pounds tractive effort. The NP Z-5 2-8-8-4 has only 140,000 pounds tractive effort less booster. So the GN really has the most powerful locomotive.

Ralph Johnson.

9116 45th Ave., N. E., Seattle, Wash.

What about the Virginian 2-10-10-2 job (shown in the 1925 *Locomotive Cyclopedia*), which has tractive effort of 176,000 pounds simple, 147,000 pounds compound? And what about the Erie Triplex, with 160,000 pounds?

John S. Lacey.

635 F St., N. W., Washington, D. C.

[Tractive effort *is not* a measure of locomotive power. Drawbar horsepower tells at what rate a locomotive will do work, and that is the measure of power. Any locomotive, given sufficient weight for adhesion, can be geared down by driver diameter to any desired tractive effort, regardless of its power. Tractive effort is only the measure of capacity to start a train, not how many ton-miles can be produced per hour.—*Ed.*]

TRAINS is mighty good, but I think *Time* did a striking presentation of the new Union Pacific "big boy." I refer to the action photo of six executives of the American Locomotive Company pushing the engine down the track to show how easily she rolls. It's beyond me, for I should think the packing and other piston and valve gear would make such a boast a little far off.

Daniel K. Short.

173 N. Delaware Ave., Laurel, Dela.

Widest Gauge; Old Poster.

WHEN I read your question as to widest gauge, on page 17 of February TRAINS, I thought of the 5′-6″ gauge in South America. Although this does not match the now-extinct seven-foot gauge in England, it is the widest I have met so far in my travels. Argentina has over 16,000 miles of this width, and Chile 3000 miles.

Perhaps it would be of interest to your readers to see a list of the various gauges found in the 10 republics of South America.

Jim Morley collection.

Logging railroad of the eighties.

This is the Humboldt Logging Railway of D. R. Jones & Company, reproduced from a wood cut in *Pacific Coast Industries*, 1885. Notice the low trestle, which would be an earthen fill on a more permanent railroad. Without a tender, the locomotive must have stopped at refueling stations along the line.

Here they are—11 of them: 5′-6″, 5′-3″ (called "1.60 meter" in Brazil), 4′-8½″, 4′-2″, 3′-6″, 3′-3⅜″ (called "meter" in several countries), 3′-3″, 3′-0″, 2′-5½″ (called ".75 meter" in Ecuador and "75 cm." in Argentina), 2′-0″, 1′-11⅝″ (called ".60 meter" in Brazil and "60 cm." in Argentina). Argentina alone has six different gauges: 5′-6″, 4′-8½″, meter, 3′-3″, 75 cm., and 60 cm.

Aside from that, I'm enclosing a reproduction of a poster which was used extensively in Philadelphia and vicinity in 1839 [see cut]. Back in those days the good people of Philadelphia were sincere in their belief that a "locomotive rail road" was all wrong. But today we know that they were laboring under a false delusion. They did not foresee the streamlined trains of today scooting in and out at frequent intervals. And Philadelphia did *not* become a "suburb of New York"!

Weston B. Lazear.

82 Chestnut St., East Orange, N. J.

Morley Finds a Clue.

REMEMBER my letter in January TRAINS, in which I told of tracing an old logging line near Jenner, Calif.? Here is a clipping from the Oakland *Tribune* of January 11, which seems to give the answer:

"Those old rail lines and trestles near Jenner? We asked concerning them and here is a reply from F. W. Nordhausen: 'In reply to your call for help regarding trestles and tracks at Jenner, I can say for the past 35 years I have visited this part of the country and consider myself fairly well versed in its traditions. The trestles and tracks that you refer to were laid by the Redwood Lumber Company, and ran from Jenner to Fort Ross. Trains were powered by steam locomotives of the size used by the Northwestern Pacific in the early 1900's. The roundhouse is now the general store at Jenner and directly in back of it was a huge mill. After the logs were milled, lumber was loaded on flat cars and hauled up to Russian Gulch, where it was loaded on schooners by a high line. Parts of the old loading chute are still visible from the present highway—on the south bluff at Russian Gulch. Tracks also ran far into Russian Gulch and there were numerous cabins there where the loggers lived. It was not until 1914 or 1915 that rails and equipment were sold. They had been idle for a number of years and scrap iron was then bringing a

fairly good price. This equipment was standard gauge.' "

Jim Morley.

2635 Etna St., Berkeley, Calif.

Municipally-Owned Railroad.

I NOTICED, in February TRAINS, the letter from William H. Hunt and your answer about municipally-owned railroads. You mentioned there are several, but why the omission of the largest owner of railroads among American cities—Cincinnati?

Cincinnati not only owns two railroads, but has the unique distinction of being the only American municipality that owns a Class 1 railroad. Of the two roads, the one more recently acquired is a fragment of the late-lamented Cincinnati, Georgetown & Portsmouth, a road with a name longer than justified by its route when its grandiose plans did not materialize. When that line was abandoned the city bought a small section of it to haul coal to the water works. This, I suppose, is not at all unusual among cities.

The road that has been unusual had its beginning shortly after the Civil War, when railroads were pushing through from North to South. Cincinnati was not served by any of the proposed lines, so the city itself built a railroad to the South. This was the Cincinnati Southern, to Chattanooga, Tenn. The road was then leased to the Cincinnati, New Orleans & Texas Pacific, which never got closer to either Texas or the Pacific than Chattanooga. The CNO&TP was in turn leased to the Southern Railway, and is now the main line of the Southern from the Midwest to the South.

No doubt, there are many municipally-owned lines, but is there any other city that can approach Cincinnati in that respect?

John M. Erickson.

725 M&T Bldg., Buffalo, N. Y.

[Mr. Hunt seems to have hit the jackpot with his letter in February TRAINS, occasioning not only four letters regarding Cincinnati's railroad system, of which Mr. Erickson's is typical, but also bringing two comments on the ghost railroads Mr. Hunt described in his letter. One of these is reproduced below.—*Ed.*]

Unmasking the Ghosts.

I READ with interest Mr. Hunt's letter regarding ghost railroads he found in Maine. The initials RF&RL *did* stand for Rumford Falls & Rangeley Lake, a road which was later taken over by the Maine Central. This part of the road ran through to Kennebago, which is nearly as far north of the Bemis that Mr. Hunt mentioned as that place is north of Rumford. There was talk of continuing the line through to Canada and connecting with the CP, but it was never done.

The road was discontinued in 1936 after a flood carried away the railroad bridge at Rumford. The track was not taken up until 1937 or 1938. I am enclosing a photograph showing the engine used in reclaiming the track as it was detoured through the streets of Rumford in order to get around the washed-out bridge and reach the part to be taken up. The locomotive was formerly Maine Central No. 155, an 0-6-0, which was sold to the company which removed the track and was scrapped when the job was completed.

The Phillips & Rangeley that Mr. Hunt mentioned was, I think, later a part of the Sandy River & Rangeley Lake narrow gauge. [Two-foot gauge, says Dr. John B. Hanley, Lewiston, Me., who adds that abandonment of the SR&RL occurred about 1935.—*Ed.*]

E. Milo Turner.

Buckfield, Me.

E. Mike Turner.

"Street railway."

Here is ex-MC No. 155 as she detoured through the streets of Rumford, Me.

New Railroad Books

CABLE CAR DAYS IN SAN FRANCISCO, by Edgar M. Kahn. 120 pages, 7" x 10". $3. Published by Stanford University Press, Stanford University, Calif.

HERE is a bit of Americana that must never be forgotten. Mingled with the mechanical intrigue and the promotional gymnastics of railroading on a vest pocket scale are such incidents of a grand period as the Sunday migration to the end of the line, where, as upon all self-respecting car lines, there is a cemetery. In those days the cemetery was a place of rest even for the living, and picnics, games —even spooning—were not undignified activities in the best of monument orchards.

Edgar M. Kahn tells the growth of the transportation systems in the Golden City through the eyes of its horse cars, cable car grip men, and trolley motormen. Leland Stanford, Mark Hopkins and all the notables of old Nob Hill enter the story in a very vital way, for it was the people on the Hill who ran all things west of Ogden in those days.

The railfan will get more out of the book if he can look at a good map of San Francisco while he reads. This is the story of all city transportation in essence, for the American street railroad grew in a very similar way in every town from Bangor to San Diego.

The book is readable in a chatty way, as if you and Mr. Kahn were rather talking it over. It makes a fine companion to Gilbert Kneiss' *Bonanza Railroads*, reviewed in January TRAINS.

ROMANCE AND HISTORY OF THE RAILROADS, by Donald M. Rice. 120 pages, 6" x 9". 40 cents. Published by F. A. Davis Company, Philadelphia.

ONE of the "Continued Study Units," this inexpensive yet complete review of the history of railroads is an exceptionally good buy for the railroad fan's library. It is a substantial cloth-bound book and through the use of two columns of small type to the page it contains a great deal more than one would expect in 120 pages. Accurate and interesting, it swings along through the entire story from the very beginning to the service and organization of the modern railroads.

AMERICA IS YOURS

See the United States spread out before you

"OHMAN'S New Relief Map of the United States" is the only "Three-Dimensional Relief Map" of this character on a flat surface and is the most outstanding contribution to the science of map-making. It is a lithographic reproduction of the original, hand-modeled Relief Map.

Mountains and valleys, together with land altitude above sea level, are portrayed in beautiful colors, and are clearly seen at a glance as they exist on the face of the earth.

Due to its richness of fine detail in geographical, topographical and commercial accuracy, the Ohman Relief Map is accepted for Academic and Professional reference. It forms an invaluable standard supplement to all maps. Such an unusual panoramic picture cannot even be visualized from present made maps.

Railroads

All important railroad routes are easily followed on this map, and the three-dimensional relief makes it easy to see what determined the routing, how mountains are crossed and river valleys followed. It's almost as much fun to follow your favorite trains on this map as it is to actually ride them!

Map is 36" x 23," scale 1" to 85 miles. Key to the map is on reverse side, and each copy is complete with metal strips ready for hanging.

The Ohman Co.
Makers of Fine Maps

Post-paid ____ **$3.50**

The Ohman Co.
Memphis, Tenn.

Send _____ Ohman maps of the United States.

Name _____
Address _____
City and State _____

Enclosed is $_____

The Month

★ Steam power is favored as railroads place new orders.

★ Steam locomotives led the field of road power orders reported in *Railway Age* during the past month, with 85 units as against 5 electric and 20 Diesel-electric. This may partly be due to the desire of the railroads to get as much power as possible for their capital investment so as to cope with the war traffic peak quickly, but it undoubtedly shows that the steam locomotive is far from licked and is still supreme in many situations. The steam locomotive costs only about one-third as much per horsepower as the Diesel-electric and hence need not turn in as high a monthly mileage to cover fixed charges on the investment. Conversely, in switching service, where a locomotive can almost universally be used 24 hours a day, the Diesel is with few exceptions the choice for new power.

The orders included: 25 more 4-8-2's for the New York Central, from Lima; the NYC's first Diesel-electric passenger units, 2 4000-horsepower jobs from Electro-Motive; 10 2-8-4's from Lima for the Nickle Plate (see item below); 5 straight electric freight locos from General Electric for the New Haven; 30 more *Challenger* type 4-6-6-4 articulateds for Union Pacific from American Locomotive (20 already on order for 1942 delivery); 10 5400-horsepower Diesel-electric freights from Electro-Motive and 20 4-8-4's from Baldwin for the Santa Fe; 8 Diesel-electrics (2 4000-horsepower passenger and 6 5400-horsepower freight) from Electro-Motive for the Baltimore & Ohio.

★ Of all times to see different things on the railroads, this is it! Passenger cars from all roads can be seen in troop trains, and locomotives are loaned right and left. Latest: Nickle Plate, anxiously awaiting 15 new 2-8-4's from Lima, is using Lackawanna and C&O power on freights.

★ Because of the tire shortage people who foresook the railroads years ago are eagerly petitioning for commuting service here and restored passenger service there. But they overlook that passenger equipment cannot be created in a short time, and that the first responsibility of the roads is to the business which has supported them in prior years. Much extra equipment is in troop train service, and scheduled main line trains are running in extra sections regularly. Passenger cars are being rented and used where most necessary. For instance, one can see arch-windowed Erie suburban coaches, looking fresh from Jersey, in rush-hour service for steel mill workers way down in Birmingham, Ala., on the Atlanta, Birmingham & Coast. It is unofficially reported that the government may allow priorities for building some 3000 special troop cars, 50-foot coaches that can be converted into box cars after the war.

★ The Port San Luis Transportation Co. has been organized to purchase and rehabilitate the narrow gauge Pacific Coast Railroad out of San Luis Obispo, Calif.

★ The Rock Island will replace the Regan intermittent train control on its 165-mile main line from Blue Island to Rock Island, Ill., with the latest Union continuous-coded system, and will install on 86 of these miles two-direction signaling, with color-light dwarfs for reverse running, and centralized traffic control so that either track can be used for either direction without written train orders. Semaphore signals will be replaced by color lights. Aside from safety, the biggest advantage of signaling is that it expidites traffic, and so it is significant that there are few big signaling projects like this at present. The track capacity of the American railroads is apparently well equal to the task at hand. Last year railroads produced 5.1 per cent more ton-miles than in the next biggest year of record, 1929, and with no congestion. Should there be a bottleneck it will be in equipment, and the railroads have been ordering cars and locomotives well beyond the allocations of materials to this purpose.

★ The Atlantic Coast Line, in taking delivery of new freight cars, has authorized the builders to place them immediately in revenue service at the car factory, which is off line, instead of following the usual practice of running the cars empty to ACL tracks.

★ Passenger cars of the new pendulum type [The Month, Feb. '42] are now in use on Great Northern and Burlington as well as Santa Fe. These cars are supported above the center of gravity, so that the bottom of the car swings outward like a pendulum on curves. You can tell these new cars by their ovel-shaped double windows with vertical sash in the center.

First sleeping car.

The first sleeping car in the world was operated during the first decade of railroading, in 1836-37, over the Cumberland Valley Railroad, now a part of the Pennsy. It was a remodeled day coach, and the berths or bunks were very crudely built. The car was divided into four compartments, each equipped with three bunks, one above the other, all built along the side of the car. At one end was a wash basin.

"RIGHT OF WAY FOR THE U.S.A."

UNCLE SAM gets the green light on the railroads today. We're sure you'd want it that way—for America has a war to fight all over the world, and a job at home to produce and deliver in overwhelming volume the things fighting men need. *These come first among the million tons of freight moved a mile on the rails every minute.*

The railroads are united in working with each other—with industry and farmers—with the government—to keep America's great war program rolling.

Whether the job calls for passenger equipment or freight—whether it's one of moving troops by the hundreds of thousands, moving raw materials or finished fighting machines — every railroad man knows that the first rule today is, "Right of Way for the U.S.A."

ASSOCIATION OF

AMERICAN RAILROADS

WASHINGTON, D.C.

Trains

Frank Quin, New York Division, Railroad Enthusiasts. See page 11.